

City Council Utlity Committee

Meeting Agenda Friday, July 21, 2017 COUNCIL CHAMBERS, CITY HALL, 2ND FLOOR 8:30-10:00 am

- Call to Order
- II. Roll Call
- III. Approval of Agenda
- IV. Approval of Minutes from March 31, 2017
- V. Public Comments on Items Not on the Agenda
- VI. SCWTP and HBWTP Improvement Projects
- VII. WTP Lab Instruments/Software
- VIII. Update Water Resources
 - Water Supply Update
 - Windy Gap Firming Project Update (dates provided by NCWCD)
 - i. 404 Permit received
 - ii. Water Rights Decree
- IX. Update CIP Projects
 - Wastewater Treatment Plant Upgrades
 - i. Status: Under construction (MHW)
 - ii. Contract cost: \$31.2 million
 - iii. Estimated completion: July 2017
 - Sid Copeland WTP Pump Station
 - i. Status: Design (Hatch Mott MacDonald)
 - ii. Design Cost: \$237,000
 - iii. Budget: \$2.8 million (includes construction)
 - Howard Berry WTP Improvements (disinfection evaluation, plate settlers, media replacement and HVAC)
 - i. Status: Design (Merrick)
 - ii. Design Cost: \$184,000

iii. Budget: \$929,000 (includes construction)

- X. 2018 Utility Rates
 - Smoothing vs Just-in-time
- XI. Downtown Tap Fee Follow-up
- XII. Steel Ranch Lift Station
- XIII. Water Rights Legal Services
 - Flyfisher
 - General
- XIV. Undergrounding of Utilities
- XV. Upcoming Projects and Council Action
 - Facility Painting August
 - Louisville Pipeline Flow Control Design August
 - Louisville Lateral Piping Design August
 - SCWTP Pump Station Planning Approval August 15th
 - SCWTP Pump Station Construction September
 - HBWTP Improvements September/October
 - Louisville Pipeline Inspection Fall
 - Louisville Pipeline Control Vault Construction Fall/Winter
 - Louisville Lateral Piping Construction Fall/Winter

XVI. Agenda Items and Date for Next Meeting

XVII. Windy Gap Tour August 4th - 7:30 am to 6:30 pm

XVIII. WWTP Ribbon Cutting Date and Time

XIX. Adjourn 10:00 am

Attachments: 03-31-17 Draft Minutes

SCWTP and HBWTP Improvement Projects

WTP Lab Instruments Software Draft Council Communication

Project Photos

Draft 2018 Utility Rates

Undergrounding memo

2017 and 2018 Budget Update



City Council **Utility Committee**

Draft - Meeting Minutes

Friday, March 31, 2017

ADMINISTRATION BUILDING, WASTEWATER TREATMENT PLANT

- I. **Call to Order** – Jay Keany called the meeting to order at 7:35 am.
- II. **Roll Call** was taken and the following members were present:

City Council: Jay Keany, Robert Muckle, Jeff Lipton, Ashley Stolzmann

Absent:

Staff Present: Malcolm Fleming, Kurt Kowar, Cory Peterson, Graham Clark and Emily Kropf

Public: Peter Stewart and Tom Phare

- III. **Approval of Agenda:** Agenda approved as amended.
- Approval of the Minutes: The meeting minutes from January 3rd were approval as IV. written.

٧. PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA:

Mr. Stewart shared several opinions related to tap fees and suggested that the application of tap fees for existing development be reviewed in more detail and to allow for a public input component of this review. Mr. Keany suggested a future Council/Utility Committee work session to focus on tap fees.

VI. **Update – Water Resources**

Mr. Peterson provided a brief update on the condition of water supply and snow pack. While storage levels are adequate the last several months have been dry and could indicate a below average year.

Mr. Peterson indicated that the Windy Gap Project is progressing with nothing of major note to report on. Staff will scheduled a tour of the Northern system for later in the summer.

VII. Update – CIP Projects

Mr. Peterson presented an update on Wastewater Plant. The startup of the new process is planned for April. The overall schedule is tracking longer than anticipated but is not expected to have any adverse impacts. The project is within budget with about \$2 million of \$3 million contingency spent. In addition, nearly all the bond proceeds have been expended. A small portion of the project and the entire contingency is cashed funded. Any unspent funds will return to the wastewater fund.

Mr. Peterson highlighted that the SCWTP Pump Station has recently started the Planning process and look to award the construction contract late summer.

Mr. Peterson gave an overview of the Howard Berry Improvement project that is currently under design. Construction is anticipated later in the year around Sept or Oct once demand conditions allow for the plant to go offline.

VIII. CIP Rollover and Budget Amendment

Mr. Peterson provided a presentation on the 2017 budget rollover and budget amendment that is scheduled for Council on May 16th.

Mr. Kowar outlined each project with focus on three new projects identified as the Louisville Pipeline Controls, SCWTP Upgrades and HBWTP Upgrades. The Utility Committee asked for additional detail and clarifications to be included within the budget amendment council communication.

IX. 2017 Utility Rates

Mr. Peterson discussed the supplemental rate tables that compared the impacts to the average residential customer between the smoothing and just-in-time rate options.

X. Trash

Mr. Kowar summarized the Solid Waste presentation. The Solid Waste contract is set to expire in 2019, RFP process scheduled for 2018. Mr. Kowar also highlighted the fee increases for 2017. The selection criteria and bid alternates will be included in the April Council presentation and refined through RFP finalization process.

XI. Undergrounding of Utilities

Mrs. Kropf provided an overview of the utility undergrounding program. The Committee expressed a priority for those areas that can address safety and reliability while minimizes the impacts to the general fund and maximizing public benefit. Staff will also explore the ability to include the undergrounding of

City Council Utility Committee

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Friday, March 31, 2017
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transformers. A long range plan will be developed and brought back for consideration.

XII. Water Conservation Rebates

Mr. Kowar discussed the reasoning on why the City discontinued the toilet and washer rebate portion of the Water Conservation program. As a note, residents are eligible to participate in the County Program. Mr. Kowar highlighted the smart irrigation controller program, with early results showing promise. The program is planned to continue for 2017.

XIII. Upcoming Projects and Council Action

Mr. Kowar provide a brief update on upcoming projects related to Master Plan approval, Plant security upgrades, SCWTP pump station construction and the HBWTP upgrades.

XV. Adjourn

The meeting was adjourned at 9:54 am by Mr. Keany and seconded by Mr. Muckle.



Memorandum | Department of Public Works

Utility Committee TO:

FROM: Kurt Kowar, Director of Public Works

Cory Peterson, Water Resources Engineer

DATE: 7/21/17

SUBJECT: Water Plant Upgrades CIP – Budget Amendment Followup

The purpose of this memo is to recommend approval of additional funding in the amount of \$1,575,000 to complete deferred smaller scale repairs at both of the City's Water Treatment Plants. The repairs will bring the WTP's to a minimum acceptable condition, support a zero tolerance policy of insufficient maintenance habits, and reinforce a desired WTP division cultural norm for the future. This memo outlines a 1, 2 and 3 year plan for completion of these repairs. Staff is recommending approval of all funding in a single approval so that operations staff can move forward efficiently without future purchasing or administrative process delays. It is anticipated that all repairs can be completed by mid 2018.

Through the early to mid-years of the 2000's the City had a culture of minimal maintenance spending and capital planning. This was a philosophy that was instilled in the culture of the employees. From 2010 to 2012 the Utility Committee pressed City Staff to complete infrastructure plans to identify improvements for the water and wastewater facilities to ensure future EPA compliance and reliability. Since the completion of those plans financial and capital planning has resulted in the completion of many major improvements with additional major items in the currently approved capital plan. Unfortunately, there has also been a failure by the operational level staff to identify smaller needed repairs and obsolete infrastructure to keep a minimum level of efficiency and reliability at the WTP facilities.

Beginning in 2012 a Public Works and Utilities culture change was undertaken to establish a minimum level of maintenance and care for the City's facilities. This change was a top down change from the Director. This change was heavily reliant upon the skill and influence of the 2nd tier supervisory staff. The WTP staff experienced significant changes in this position that unfortunately delayed their progress for many years. From 2012 – 2014 the long time WTP Superintendent experienced health issues that unfortunately took his life. Soon after, the 3rd tier Chief WTP Operator retired. In 2014, a new WTP Superintendent and Chief Operator were hired. From 2014 to 2015 the new WTP Superintendent struggled to meet demands and ultimately resigned. From 2014 to early 2016 the new WTP Chief Operator struggled to gain staff buy in, experienced health issues, and was unable to return from FMLA. In mid-2015, the City was able to hire a 2nd new Superintendent that has proved to be a strong leader. In mid-2016, the City was able to hire a new Chief Operator under the Superintendent whom has also proven to be a strong leader. Finally, through late 2015 and 2016 six out of 10 operations staff



left the City (3 retired, 3 resigned) due to increased expectations around work performance and work place behavior.

Once able to establish strong leadership and increased operations staff accountability the Director issued a zero tolerance policy focused on insufficient repairs and maintenance practices. In late 2016, Public Works Staff performed a comprehensive walk through assessment of the both the Sid Copeland (SCWTP) and the Howard Berry Water Treatment Plants (HBWTP). The purpose of the walk through was to identify items, processes and equipment that are in need of repair, replacement or remediation.

During this exercise, 186 projects (103 at HBWTP and 83 at SCWTP) were identified and listed. Some of these items were completed in 2016 by plant staff with little or no cost. Other projects were tabled due to: need, timing, high cost, additional analysis or a combination thereof.

The remaining projects were condensed to 102 (44 at HBWTP and 58 at SCWTP) based on necessity to maintain long term viability of the WTPs. Staff assigned a project cost estimate to each of the projects for a total of \$1.575 million (\$750,000-HBWTP and \$825,000-SCWTP). Included in this price is approximately 5% for engineering services to be used for building code, Colorado Department of Public Health and Environment or other regulatory agencies requirements. Table 1 provides a categorized breakdown.

Table 1 - Project Summary

Project Category	Number of Project	Cost Estimate
Concrete and Asphalt	8	\$125,000
Meters	12	\$190,000
Pumps and Valves	11	\$190,000
Electrical and Instrumentation	31	\$204,000
Building, Vaults and Tanks	24	\$325,000
Process Equipment and Piping	8	\$451,000
Demolition and Removal	8	\$15,000
Engineering and Design		\$75,000
Total	102	\$1,575,000

Additional, each project was prioritized by three categories using a simplified scale of "low", "medium" and "high". The three categories delineated as follows:

- Existing Condition: defined as the relative working status with a "high" ranking meaning the project was near failure and "low" having a minor amount of useful life remaining.
- Severity/Impact: defined as how critical the component is to the plant process. The lower the score the less critical the item is to the successful treatment of water.
- Notification/Detection: defined as how visible the item is to alert Staff of a failure. The higher the classification, the less monitoring capability is available.

Using the scale in each category a priority rating ranging between 1 to 10 was developed and allocated to each project.

To estimate impacts to the budget, the projects were further divided in to a one, two and three year plan (provided below in the exhibit). Projects were arranged by priority, with projects priority ratings high (5 to 10 and 7 to 10) scheduled for the first year in the multi-year plans. The lower priority projects (1 to 4 and 1 to 3) were used for the final year. The remaining midpriority 4 to 6 projects were used in the second year of the 3-year plan. The following table provides a summary of the three plans and the corresponding budget. (Note: some lower priority projects have already been initiated and are shown in 2017).

Table 2 - Plan Cost Estimate

	2017	2018	2019
1-Year Plan	All priorities		
HBWTP	\$750,000		
SCWTP	\$825,000		
2-Year Plan	Priorities 5 to 10	Priorities 1 to 4	
HBWTP	\$465,000	\$285,000	
SCWTP	\$423,000	\$402,000	
3-Year Plan	B-Year Plan Priorities 7 to 10 Pr		Priorities 1 to 3
HBWTP	\$430,500	\$52,500	\$267,000
SCWTP	\$241,500	\$264,000	\$319,500

The three scenarios were evaluated using the City's financial model. Table 3 presents the calculated rate increase from this evaluation.

Table 3 - Recommended Water Rate Increase

Scenario	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2017 Adopted	0%	3%	3%	3%	3%	2%	4%	4%	4%	4%
1-Year Plan	0%	2%	3%	3%	3%	2%	2%	2%	0%	0%
2-Year Plan	0%	2%	3%	3%	3%	2%	2%	2%	0%	0%
3-Year Plan	0%	2%	3%	3%	3%	2%	2%	2%	0%	0%

The results from the model show no variation in the recommended rates. The lack of variation is attributable to the projected income to the Water Fund over the next 5 years, specifically the revenue generated by tap fees. The below graph illustrates the calculated fund balance and target fund balance for each plan from 2017 to 2027. Given the increasing fund balance through 2020 the timing of the projects within this four year period has no impact. As a result of this analysis, staff had recommended the approval of the 1-year plan with a budget amendment to the accounts illustrated in Table 4.

Table 4 - Account Detail

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	Account Number	Type	2017	2018	TOTAL
Water Treatment Plants Upgrades	New acct #	CIP	\$898,000	-	\$898,000
Parts/Repairs/Maint-Bldgs/Fac	501461-550000	Operating	\$30,000	\$225,000	\$255,000
Parts/Repairs/Maint-Equip	501461-550020	Operating	\$174,000	\$248,000	\$422,000
Total			\$1,102,000	\$473,000	\$1,575,000

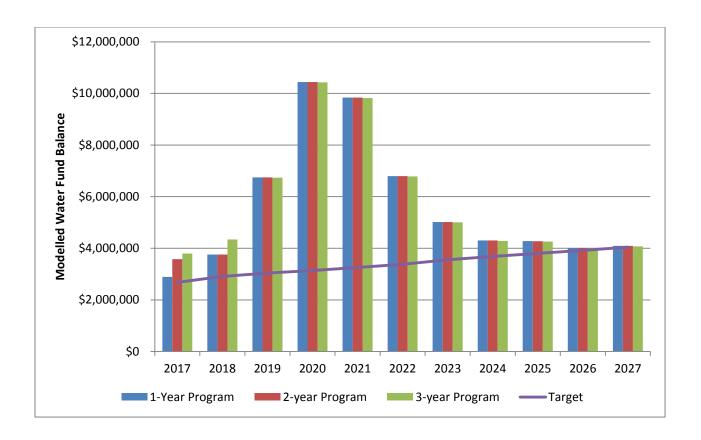




Exhibit: Project Plans

1-Year Plan

Item Description	Priority Ranking (1-10)	Estimated Cost
Trac-vac Repair	10	\$9,600
New Raw Access Shed	1	\$12,000
Seal and Repair Concrete	3	\$12,000
Cherry Street Pipeline valve (CCGC) Replacement	8	\$80,000
Parking Lot Crack Seal and Patching	2	\$30,000
New Raw Water Bypass Valve	7	\$15,000
Lighting Improvements	1	\$6,000
Meter Testing / Calibration	6	\$2,000
Demo and Replace Surrounding Concrete (sidewalks)	3	\$27,000
Soda Ash Feeder Removal	3	\$5,000
Permanganate Feeder and Equipment Removal	3	\$5,000
Chemical Feed Electrical Boxes Removal	3	\$3,000
PH Meter Replacement	7	\$8,000
SCD Meter Replacement	7	\$8,000
Chemical Building Programmable Logic Controller (PLC) Removal	2	\$14,000
Obsolete Exterior Fire Alarm Removal	1	\$1,200
DIOXIDE Lighting Replacement	2	\$500
Exterior Painting	3	\$3,500
Demo and Replace Surrounding Concrete (sidewalks and stairs)	3	\$6,000
Flocculator Replacement	9	\$120,000
New Utility Sink	1	\$240
Lighting Improvements	3	\$18,000
VFD Electrical Panel Repair	2	\$600
Filter Building Exhaust Fan Panel Replacement	4	\$600
Old Trac-vac Filter Intake Removal	2	\$1,200
MCC Concrete Pad Repair	3	\$1,500
Sanitary Sump Pump Service and Maintenance	7	\$3,500
Drywall Repairs	1	\$3,500
Interior Finishes (painting and replacement of base boards)	1	\$4,200
Window Tinting	1	\$2,200
Surface Wash Pump Seal Replacement	5	\$1,000
Back Wash Pump Seals Replacement	6	\$60,000
Actuators Replacement	9	\$70,000
Filter to Waste Line Improvements	8	\$13,000
Filter 2 Sample Pump Repair	7	\$250
Air Blower Actuator Replacement	6	\$2,400
Electrical Panel Replacement	5	\$5,000
	3	\$110,000
Clearwell Drain Improvements Polymor Automation	4	\$15,000
Polymer Automation Trac-vac Flow Meter Calibration and Improvement	4	\$3,000
Air Dyer Removal	2	\$600
Instrument Electrical Rail Repair Chamical Food (chloring gas & sayetis) Polosotion	5	\$1,200
Chemical Feed (chlorine gas & caustic) Relocation	4	\$2,400
Backwash Rate Pump control valve	6	\$24,000
Engineering Support Services		\$35,000
HOWARD BERRY WTP TOTAL		\$746,190
Reservoir Aerators Compressors and Diffusers Repair	7	\$5,000

Item Description	Priority Ranking (1-10)	Estimated Cost
Louisville Reservoir Aerator Expansion	3	\$80,000
Inflow Measurement Device Replacement	6	\$8,400
Raw Flow Meter Replacement	4	\$14,400
Northern Vault Improvements	4	\$5,400
Algae Monitoring System	5	\$120,000
ACH Sump Pump Holding Tank	6	\$8,400
Streaming Current Detector Electrical Panel Replacement	2	\$9,000
Secondary Containment Installation	6	\$30,000
Equipment Storage	1	\$18,000
PLC Cabinet Replacement	3	\$12,000
Roof Repairs	5	\$24,000
Trac-vac Flow Meter Replacement	4	\$18,000
Trac-vac Vault Improvements (improve access and ventilation)	3	\$18,000
Recycle Flow Meter Replacement	5	\$18,000
Recycle Vault Improvements (improve access and		
ventilation)	3	\$18,000
SCD Vault Improvements (improve access and ventilation)	3	\$18,000
Raw Vault Low Flow Controls Calibration	7	\$3,500
Lighting Improvements	4	\$500
Rapid Mixer Propellers and Shafts Replacement	8	\$5,000
Demo and Replace Surrounding Concrete (sidewalks)	3	\$36,000
Rapid Mixer Electrical Panel Replacement	5	\$1,500
Broken Conduit Repair	4	\$600
Raw Vault Improvements (improve access and ventilation)	3	\$18,000
Flocculators Electrical Panel Replacement	5	\$12,000
Sed Basin Level Transmitters (2) Replacement	6	\$9,000
Transformer Maintenance	9	\$6,000
Demo and Replace Surrounding Concrete (sidewalks)	3	\$6,000
Backup Generator Evaluation/Upgrade	8	\$35,000
PVC Pipping Repair	5	\$1,000
Demo and Replace Surrounding Concrete (sidewalks)	3	\$6,000
Epoxy Paint Floor	2	\$3,600
Lighting Improvements	2	\$1,200
Equipment storage (ladder hangers)	1	\$500
Lighting Improvements	2	\$1,200
Chemical Flow Adjustment Valve Replacement	3	\$240
Sodium Chlorite Level Sensor SCADA Tie-In	4	\$3,500
Secondary Containment for Chemical Tanks	6	\$30,000
Silicate Tank Replacement	6	\$30,000
Chlorine Detector	5	\$3,600
Relocate Network Switch	4	\$2,400
Automate Polymer Mixing	3	\$15,000
Filter Flow Meter Calibrations	3	\$2,400
#2 Filter Backwash Valve Calibration	3	\$2,400
Pre-Inline Chlorine Probe Installation	4	\$18,000

Item Description	Priority Ranking (1-10)	Estimated Cost
Filter To Waste Valve/Flow Meter Automation	4	\$12,000
Link Seals Replacement	4	\$12,000
Backwash Turbidity SCADA Conductivity	4	\$2,400
Epoxy and Seal Walls	2	\$6,000
VFD Electrical Panel Replacement	5	\$3,000
Recycle Tank Level Sensor Replacement	5	\$4,200
Lighting Improvements	2	\$1,200
Vault Improvements (improve access and ventilation)	3	\$18,000
Level Transmitter Replacement	5	\$4,200
Tank Outflow Vault Replacement	3	\$12,000
Electrical Conduit Repair and Replacement	5	\$6,000
Low Zone Vault Improvements (improve access and		
ventilation)	3	\$18,000
Perimeter Fence Repair	3	\$5,000
Engineering Support Services		\$40,000
SID COPELAND WTP TOTAL		\$822,740

2-Year Plan

Item Description	Priority	Estimated	Estimated
	Ranking (1-10)	Cost (2017)	Cost (2018)
Trac-vac Repair	10	\$9,600	
New Raw Access Shed	1		\$12,000
Seal and Repair Concrete	3		\$12,000
Cherry Street Pipeline valve (CCGC) Replacement	8	\$80,000	
Parking Lot Crack Seal and Patching	2		\$30,000
New Raw Water Bypass Valve	7	\$15,000	
Lighting Improvements	1	·	\$6,000
Meter Testing / Calibration	6	\$2,000	
Demo and Replace Surrounding Concrete (sidewalks)	3		\$27,000
Soda Ash Feeder Removal	3		\$5,000
Permanganate Feeder and Equipment Removal	3		\$5,000
Chemical Feed Electrical Boxes Removal	3	¢0.000	\$3,000
PH Meter Replacement	7	\$8,000	
SCD Meter Replacement Chamical Building Programmable Logic Controller (BLC)	7	\$8,000	¢14000
Chemical Building Programmable Logic Controller (PLC) Removal	2		\$14,000
Obsolete Exterior Fire Alarm Removal	1		\$1,200
DIOXIDE Lighting Replacement	2		\$500
Exterior Painting	3		\$3,500
Demo and Replace Surrounding Concrete (sidewalks and stairs)	3		\$6,000
Flocculator Replacement	9	\$120,000	
New Utility Sink	1	\$240	
Lighting Improvements	3		\$18,000
VFD Electrical Panel Repair	2		\$600
Filter Building Exhaust Fan Panel Replacement	4		\$600
Old Trac-vac Filter Intake Removal	2		\$1,200
MCC Concrete Pad Repair	3		\$1,500
Sanitary Sump Pump Service and Maintenance	7	\$3,500	40 = 00
Drywall Repairs	1		\$3,500
Interior Finishes (painting and replacement of base boards)	1		\$4,200
Window Tinting Surface Week Pump Seel Benlesement	1	¢1 000	\$2,200
Surface Wash Pump Seal Replacement Back Wash Pump Seals Replacement	5 6	\$1,000	
Actuators Replacement	9	\$60,000 \$70,000	
Filter to Waste Line Improvements	8	\$13,000	
Filter 2 Sample Pump Repair	7	\$13,000	
Air Blower Actuator Replacement	6	\$2,400	
Electrical Panel Replacement	5	\$5,000	
Clearwell Drain Improvements	3	Ψ5,000	\$110,000
Polymer Automation	4		\$15,000
Trac-vac Flow Meter Calibration and Improvement	4	\$3,000	Ψ10,000
Air Dyer Removal	2	+5,000	\$600
Instrument Electrical Rail Repair	5	\$1,200	+300

Item Description	Priority Ranking (1-10)	Estimated Cost (2017)	Estimated Cost (2018)
Chemical Feed (chlorine gas & caustic) Relocation	4		\$2,400
Backwash Rate Pump control valve	6	\$24,000	
Engineering Support Services		\$35,000	
HOWARD BERRY WTP TOTAL		\$461,190	\$285,000
Louisville Reservoir Aerators Compressors and Diffusers Repair	7	\$5,000	
Louisville Reservoir Aerator Expansion	3		\$80,000
Inflow Measurement Device Replacement	6	\$8,400	
Raw Flow Meter Replacement	4		\$14,400
Northern Vault Improvements	4		\$5,400
Algae Monitoring System	5	\$120,000	
ACH Sump Pump Holding Tank	6	\$8,400	
Streaming Current Detector Electrical Panel Replacement	2		\$9,000
Secondary Containment Installation	6	\$30,000	
Equipment Storage	1	·	\$18,000
PLC Cabinet Replacement	3		\$12,000
Roof Repairs	5	\$24,000	
Trac-vac Flow Meter Replacement	4		\$18,000
Trac-vac Vault Improvements (improve access and ventilation)	3		\$18,000
Recycle Flow Meter Replacement	5	\$18,000	
Recycle Vault Improvements (improve access and ventilation)	3		\$18,000
SCD Vault Improvements (improve access and ventilation)	3		\$18,000
Raw Vault Low Flow Controls Calibration	7	\$3,500	
Lighting Improvements	4	\$500	
Rapid Mixer Propellers and Shafts Replacement	8	\$5,000	
Demo and Replace Surrounding Concrete (sidewalks)	3		\$36,000
Rapid Mixer Electrical Panel Replacement	5	\$1,500	
Broken Conduit Repair	4		\$600
Raw Vault Improvements (improve access and ventilation)	3		\$18,000
Flocculators Electrical Panel Replacement	5	\$12,000	
Sed Basin Level Transmitters (2) Replacement	6	\$9,000	
Transformer Maintenance	9	\$6,000	
Demo and Replace Surrounding Concrete (sidewalks)	3		\$6,000
Backup Generator Evaluation/Upgrade	8	\$35,000	
PVC Pipping Repair	5	\$1,000	
Demo and Replace Surrounding Concrete (sidewalks)	3		\$6,000
Epoxy Paint Floor	2		\$3,600
Lighting Improvements	2		\$1,200
Equipment storage (ladder hangers)	1	\$500	
Lighting Improvements	2		\$1,200
Chemical Flow Adjustment Valve Replacement	3		\$240
Sodium Chlorite Level Sensor SCADA Tie-In	4	\$3,500	
Secondary Containment for Chemical Tanks	6	\$30,000	
Silicate Tank Replacement	6	\$30,000	

Item Description	Priority	Estimated	Estimated
	Ranking	Cost	Cost
	(1-10)	(2017)	(2018)
Chlorine Detector	5	\$3,600	
Relocate Network Switch	4	\$2,400	
Automate Polymer Mixing	3		\$15,000
Filter Flow Meter Calibrations	3		\$2,400
#2 Filter Backwash Valve Calibration	3		\$2,400
Pre-Inline Chlorine Probe Installation	4		\$18,000
Filter To Waste Valve/Flow Meter Automation	4		\$12,000
Link Seals Replacement	4		\$12,000
Backwash Turbidity SCADA Conductivity	4		\$2,400
Epoxy and Seal Walls	2	\$6,000	
VFD Electrical Panel Replacement	5	\$3,000	
Recycle Tank Level Sensor Replacement	5	\$4,200	
Lighting Improvements	2		\$1,200
Vault Improvements (improve access and ventilation)	3		\$18,000
Level Transmitter Replacement	5	\$4,200	
Tank Outflow Vault Replacement	3		\$12,000
Electrical Conduit Repair and Replacement	5	\$6,000	
Low Zone Vault Improvements (improve access and			\$18,000
ventilation)	3		
Perimeter Fence Repair	3		\$5,000
Engineering Support Services		\$40,000	
SID COPELAND WTP TOTAL		\$420,700	\$402,040



3-Year Plan

Item Description	Priority	Estimated	Estimated	Estimated
item bescription	Ranking (1-10)	Cost (2017)	Cost (2018)	Cost (2019)
Trac-vac Repair	10	\$9,600		
New Raw Access Shed	1			\$12,000
Seal and Repair Concrete	3			\$12,000
Cherry Street Pipeline valve (CCGC) Replacement	8	\$80,000		
Parking Lot Crack Seal and Patching	2			\$30,000
New Raw Water Bypass Valve	7	\$15,000		
Lighting Improvements	1			\$6,000
Meter Testing / Calibration	6		\$2,000	
Demo and Replace Surrounding Concrete (sidewalks)	3			\$27,000
Soda Ash Feeder Removal	3			\$5,000
Permanganate Feeder and Equipment Removal	3			\$5,000
Chemical Feed Electrical Boxes Removal	3			\$3,000
PH Meter Replacement	7	\$8,000		
SCD Meter Replacement	7	\$8,000		h4 4 6 6 6
Chemical Building Programmable Logic Controller (PLC) Removal	2			\$14,000
Obsolete Exterior Fire Alarm Removal	1			\$1,200
DIOXIDE Lighting Replacement	2			\$500
Exterior Painting	3			\$3,500
Demo and Replace Surrounding Concrete (sidewalks and stairs)	3			\$6,000
Flocculator Replacement	9	\$120,000		
New Utility Sink	1	\$240		
Lighting Improvements	3			\$18,000
VFD Electrical Panel Repair	2			\$600
Filter Building Exhaust Fan Panel Replacement	4		\$600	
Old Trac-vac Filter Intake Removal	2			\$1,200
MCC Concrete Pad Repair	3	+0 = 00		\$1,500
Sanitary Sump Pump Service and Maintenance	7	\$3,500		40.500
Drywall Repairs Interior Finishes (painting and replacement of base	1 1			\$3,500 \$4,200
boards) Window Tinting	1			¢2 200
Window Tinting Surface Wash Pump Seal Replacement	1 5	\$1,000		\$2,200
Back Wash Pump Seals Replacement	6	\$60,000		
Actuators Replacement	9	\$70,000		
Filter to Waste Line Improvements	8	\$13,000		
Filter 2 Sample Pump Repair	7	\$13,000		
Air Blower Actuator Replacement	6	φΔ30	\$2,400	
Electrical Panel Replacement	5		\$5,000	
Clearwell Drain Improvements	3		Ψ3,000	\$110,000
Polymer Automation	4		\$15,000	ΨΙΙΟ,ΟΟΟ
Trac-vac Flow Meter Calibration and Improvement	4	\$3,000	Ψ15,000	
Air Dyer Removal	2	Ψυ,σοσ		\$600

Item Description	Priority Ranking (1-10)	Estimated Cost (2017)	Estimated Cost (2018)	Estimated Cost (2019)
Instrument Electrical Rail Repair	5		\$1,200	
Chemical Feed (chlorine gas & caustic) Relocation	4		\$2,400	
Backwash Rate Pump control valve	6		\$24,000	
Engineering Support Services		\$35,000		
HOWARD BERRY WTP TOTAL		\$426,590	\$52,600	\$267,000
Louisville Reservoir Aerators Compressors and		\$5,000		
Diffusers Repair	7	,		
Louisville Reservoir Aerator Expansion	3			\$80,000
Inflow Measurement Device Replacement	6	\$8,400		
Raw Flow Meter Replacement	4		\$14,400	
Northern Vault Improvements	4		\$5,400	
Algae Monitoring System	5		\$120,000	
ACH Sump Pump Holding Tank	6	\$8,400		
Streaming Current Detector Electrical Panel Replacement	2			\$9,000
Secondary Containment Installation	6	\$30,000		
Equipment Storage	1			\$18,000
PLC Cabinet Replacement	3			\$12,000
Roof Repairs	5	\$24,000		
Trac-vac Flow Meter Replacement	4		\$18,000	
Trac-vac Vault Improvements (improve access and				\$18,000
ventilation)	3			
Recycle Flow Meter Replacement	5		\$18,000	
Recycle Vault Improvements (improve access and ventilation)	3			\$18,000
SCD Vault Improvements (improve access and ventilation)	3			\$18,000
Raw Vault Low Flow Controls Calibration	7	\$3,500		
Lighting Improvements	4	\$500		
Rapid Mixer Propellers and Shafts Replacement	8	\$5,000		
Demo and Replace Surrounding Concrete (sidewalks)	3			\$36,000
Rapid Mixer Electrical Panel Replacement	5		\$1,500	
Broken Conduit Repair	4		\$600	
Raw Vault Improvements (improve access and ventilation)	3			\$18,000
Flocculators Electrical Panel Replacement	5		\$12,000	
Sed Basin Level Transmitters (2) Replacement	6		\$9,000	
Transformer Maintenance	9	\$6,000		
Demo and Replace Surrounding Concrete (sidewalks)	3			\$6,000
Backup Generator Evaluation/Upgrade	8	\$35,000		
PVC Pipping Repair	5	\$1,000		
Demo and Replace Surrounding Concrete (sidewalks)	3			\$6,000
Epoxy Paint Floor	2			\$3,600
Lighting Improvements	2			\$1,200
Equipment storage (ladder hangers)	1	\$500		
Lighting Improvements	2			\$1,200

Item Description	Priority	Estimated	Estimated	Estimated
	Ranking	Cost	Cost	Cost
	(1-10)	(2017)	(2018)	(2019)
Chemical Flow Adjustment Valve Replacement	3			\$240
Sodium Chlorite Level Sensor SCADA Tie-In	4	\$3,500		
Secondary Containment for Chemical Tanks	6	\$30,000		
Silicate Tank Replacement	6	\$30,000		
Chlorine Detector	5		\$3,600	
Relocate Network Switch	4	\$2,400		
Automate Polymer Mixing	3			\$15,000
Filter Flow Meter Calibrations	3			\$2,400
#2 Filter Backwash Valve Calibration	3			\$2,400
Pre-Inline Chlorine Probe Installation	4		\$18,000	
Filter To Waste Valve/Flow Meter Automation	4		\$12,000	
Link Seals Replacement	4		\$12,000	
Backwash Turbidity SCADA Conductivity	4		\$2,400	
Epoxy and Seal Walls	2	\$6,000		
VFD Electrical Panel Replacement	5		\$3,000	
Recycle Tank Level Sensor Replacement	5		\$4,200	
Lighting Improvements	2			\$1,200
Vault Improvements (improve access and ventilation)	3			\$18,000
Level Transmitter Replacement	5		\$4,200	
Tank Outflow Vault Replacement	3			\$12,000
Electrical Conduit Repair and Replacement	5		\$6,000	
Low Zone Vault Improvements (improve access and				\$18,000
ventilation)	3			
Perimeter Fence Repair	3			\$5,000
Engineering Support Services		\$40,000		
SID COPELAND WTP TOTAL		\$239,200	\$264,300	\$319,240





CITY COUNCIL COMMUNICATION AGENDA ITEM

SUBJECT: APPROVE SOLE SOURCE PURCHASE OF INSTRUMENTATION

AND ASSOCIATED SCADA SOFTWARE FOR THE SID

COPELAND WATER TREATMENT PLANT, HOWARD BERRY WATER TREATMENT PLANT, AND NEW WASTEWATER

TREATMENT PLANT

DATE: JULY 18, 2017

PRESENTED BY: KURT KOWAR, PUBLIC WORKS DIRECTOR

SUMMARY:

Staff recommends approval of aggregate purchases from Hach in an amount up to \$157,000 to support upgrade of laboratory equipment, laboratory equipment software and licensing, supervisory control and data acquisition integration, and an annual calibration and maintenance contract. Hach is the industry standard for laboratory testing and instrumentation equipment, and the only state approved water treatment vendor that provides the overall desired integration capability between lab equipment, instrumentation, and SCADA.

The Sid Copeland (SCWTP) and Howard Berry (HBWTP) Water Treatment Plants are in need of an instrumentation upgrade. Many of the instruments relied upon for the successful treatment of water are obsolete or antiquated. In the event of failure, there would be no direct replacement or spare parts available to purchase. Additionally, technology has advanced since the purchase of the original 1990's instrumentation. Many of the instruments currently used are not as accurate, responsive, or integrated into SCADA. Replacing the antiquated equipment improves the accuracy of data collected, which improves the ability to manipulate and analyze the data to optimize the process. Further, the new equipment improves the robustness of the process through automation. Lastly, more accurate and reliable equipment allows for better efficiencies in providing safe high quality water.

To enhance the instrumentation upgrades, a new software, Water Information Management Solution (WIMS) platform is included. The WIMS software provides a direct connection between the lab equipment and the SCADA system. Currently, staff uses paper bench sheets to collect data from critical points in the process. Once this data is collected, it is transferred to an excel spreadsheet for record keeping. Each month, the electronic excel spreadsheet and SCADA records are used to create various reports that are submitted by regulation to the Colorado Department of Health and Environment. The WIMS software will automate the collection of data and automate reporting which will reduce a large amount of time inefficiently spent recording data and transferring it to the appropriate place. This software will also increase the accuracy of

SUBJECT: 2017 INSTRUMENTATION AND SOFTWARE UPGRADES AGREEMENT

DATE: JULY 18, 2017 PAGE 2 OF 3

data collected. The SCWTP, HBWTP, and the new WWTP all will standardize and utilize the WIMS platform.

FISCAL IMPACT

WTP Instrumentation Upgrade and Software Purchase and Licensing - \$109,230

Capital purchases for equipment and software will be expended from the approved 2017 Capital Improvement Program:

WTP Instrumentation Upgrades CIP	
2017 Approved CIP (501499-640117)	\$150,000.00
Hach Quote	(\$99,300.00)
Installation Contingency 10%	(\$9,930.00)
Delta - CIP Remaining	\$40,770.00

WTP Annual Service Contract - \$25,312.50

The annual service contract for calibration and maintenance of equipment will be expended from the WTP Parts/Repairs/Maintenance-Equipment operational budget, account number 501461-550020, in the amount of \$25,312.50. Due to aggressive repair efforts at both WTP's this line item will require a future budget amendment to support necessary expenses. The amount and nature of the proposed budget amendment will be discussed at the July 21 Utility Committee meeting and with any necessary budget amendments being considered at the August 15 City Council meeting.

WWTP Software Purchase and Licensing - \$21,599

The software and licensing costs for the WIMS platform to support the new WWTP equipment and SCADA system will be expended from the existing new WWTP project continency, account number 502499-660153.

RECOMMENDATION:

Staff recommends City Council award the sole source purchase of the instrumentation, software, and annual service contract with Hach.

SUBJECT: 2017 INSTRUMENTATION AND SOFTWARE UPGRADES AGREEMENT

DATE: JULY 18, 2017 PAGE 3 OF 3

ATTACHMENT(S):

1. HBWTP pricing quote

- 2. SCWTP pricing quote
- 3. Hach service agreement quote.
- 4. WWTP pricing quote



Quote Number: 100235399v2Use quote number at time of order to ensure that you receive prices quoted

Quotation

Hach PO Box 608

Loveland, CO 80539-0608
Phone: (800) 227-4224
Email: quotes@hach.com
Website: www.hach.com

Quote Expiration: 06-May-2017

CITY OF LOUISVILLE 1955 N WASHINGTON ST LOUISVILLE, CO 80027

Quote Date: 07-Mar-2017

Name: Greg Venette Phone: 7206009577 Fax: (303) 666-4193

Email: gvenette@louisvilleco.gov

Customer Account Number : 833446 Customer Quote Reference: South Plant

Sales Contact: Shane Mueller Email: smueller@hach.com Phone: 970-215-3671

PRICING QUOTATION

Line	Part Number	Description	Qty
1	LPV442.99.03012	ee TU5200, Lab Turb with RFID, EPA	1
2	LZV946	Sample Vials	1
3	LZY835	StablCal Calibration Set w. RFID	1
4	LZY837	StablCal Cal. Vial 20 NTU w. RFID	1
5	LZY903	Vial Wiper TU5xxx	1
6	LZY901	Glass Rod Sec. Turb. Stand. <0,1NTU	1
7	LZQ070	SAMPLE RFID TAG, BLUE, PK/3	1
8	LXV404.99.00552	sc200 CONTROLLER, AC-DC, 2 DIG, HACH	6
9	LXV445.99.23112	db ee TU5300sc TURB,FLOW,SYSCHK,RFID,EPA	5
10	2977200	KTO: SS7 W/sc200 STANDARD	1
11	LXV510.99.11010	AF7000 SCM, AUTOFLSH, GRT FLTR, 110V 60 Hz, US CORD	1
12	59P	** Field Svc FULL DAY StartUp-PROCESS (P)	1
13	STARTUP TRAVEL	** Field Svc HACH START UP TRAVEL CHG	1
14	WM-MU-CONUSR	WIMS CONCURRENT USER LICENSE	2
15	DM_WIMS-SERVICES	WIMS Services	70
16	NOSHIPOPENPROJ	KEEPS ORDER OPEN FOR WIMS PROJECT DO NOT SHIP ITEM	1
17	WM-MOBILE-INT	WIMS STD MOBILE IF	1
		Grand Total	\$ 49,909.00

NOTES

Hach WIMS Software:

_Hach WIMS™ with 3 concurrent users, 1 facility database, 1 year of support (starts on ship date)

MS SQL 2012 Express 10 GB database (Included - requires Windows 7, Windows 8, Server 2008 R2, Server 2008 SP2, Server 2012, or Vista SP2). MS SQL 2005 (4GB limit)can be used on Win XP if required

Standard SCADA Interface for Hach WIMS™ - Iconics:

_Please go to <u>www.hach.com/im</u>, under "Helpful Links" click on Standard SCADA and LIMS Interfaces to review the list of Standard SCADA interfaces currently available. Please verify your system is listed and click on the Documentation link to review the technical details of the interface. Contact IIM Support at 800-667-0067 if you need assistance.

NOTE: If your SCADA system is not on the Hach list of standard interfaces, a custom interface will be required and additional costs will be incurred. Completion of custom interfaces may extend beyond the completion of other aspects of the project but should not delay the use of most WIMS functionality. You should discuss impact to the project schedule with your HACH RSM and Project Manager.

Mobile Data Collection - doFORMS:

_Standard doForms™ Mobile Interface for Hach WIMS™: Using smartphones and tablets running iOS or Android operating systems to collect data in the field.

NOTE: Requires, but does not include doForms subscription plan (Professional)

Go to: www.doforms.com for device compatibility and pricing information

Implementation Services (65 Hours):

Typically includes (your Project Manager will finalize the scope of work based on your needs):

- Project Administration
- Consultation to gather information and determine specific needs to create a project plan.
- Remote Basic Install Assistance
- Basic Variable setup Adapting an industry standard list of parameters and calculations for your plant/system.
- Site specific calculation setup
- Up to 10 pages standard regulatory report (MOR, DBR, IFE, etc...) or 100 parameter regulatory eReport
- 1 standard format monthly KPI report with up to 10 user defined KPIs (key performance indicators)
- Predefined dashboard with 10 user defined KPI's and KPI graph set
- 1 standard format yearly summary KPI report with up to 10 user defined KPIs
- Data Entry Form development including 1 Custom Data Entry Form and standard Monthly Data Entry Forms for all parameters
- Additional scope/work, billed at our standard labor rate, can be requested and will require a change order.
- Implementation assumes internet access is available at installation site.
- Data Migration services are NOT included. Historical data may be imported from SCADA/LIMS systems with Purchased Interfaces.

Mobile Interface installation, configuration and training (5 hours):

- Remote installation of the interface
- Configuration of the interface
- Form Setup Training
- Enable the web services for your forms
- Cross reference up to 10 variables to Hach WIMS
- Training on how to capture data and how to send the data to your Hach WIMS

Prerequisite: Must have doForms professional account set up and a device with the doForms application installed.

Note: Additional form setup/scope/work is billed at our standard labor rate, can be requested and will require a change order. An additional hour is required for each 10 variables with cross referencing.

Onsite Training and Services

_3 Days - Onsite Training and Services

- Installation Review
- Training Basic, Advanced, and Admin (A Hach project manager will create a training agenda based on training requirements)
- SCADA Interface installation, configuration and training. Up to 40 variables will be cross referenced. Customer will be trained on how to cross-reference additional variables.

TERMS OF SALE

Freight: Ground Prepay and Add

FCA: Hach's facility

All purchases of Hach Company products and/or services are expressly and without limitation subject to Hach Company's Terms & Conditions of Sale ("Hach TCS"), incorporated herein by reference and published on Hach Company's website at www.hach.com/terms. Hach TCS are contained directly and/or by reference in Hach's offer, order acknowledgment, and invoice documents. The first of the following acts constitutes an acceptance of Hach's offer and not a counteroffer and creates a contract of sale "Contract" in accordance with the Hach TCS: (i)

Buyer's issuance of a purchase order document against Hach's offer; (ii) acknowledgement of Buyer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Buyer's order. Provisions contained in Buyer's purchase documents (including electronic commerce interfaces) that materially alter, add to or subtract from the provisions of the Hach TCS are not part of the Contract.

Due to International regulations, a U.S. Department of Commerce Export License may be required. Hach reserves the right to approve specific shipping agents. Wooden boxes suitable for ocean shipment are extra. Specify final destination to ensure proper documentation and packing suitable for International transport. In addition, Hach may require: 1). A statement of intended end-use; 2). Certification that the intended end-use does not relate to proliferation of weapons of mass destruction (prohibited nuclear end use, chemical / biological weapons, missile technology); and 3). Certification that the goods will not be diverted contrary to U.S. law.

ORDER TERMS:

Terms are Subject to Credit Review

Please reference the quotation number on your purchase order.

Sales tax is not included. Applicable sales tax will be added to the invoice based on the U.S. destination, if applicable provide a resale/exemption certificate.

Shipments will be prepaid and added to invoices unless otherwise specified.

Equipment quoted operates with standard U.S. supply voltage.

Hach standard terms and conditions apply to all sales.

Additional terms and conditions apply to orders for service partnerships.

Prices do not include delivery of product. Reference attached Freight Charge Schedule and Collect Handling Fees.

Standard lead time is 30 days.

This Quote is good for a one time purchase.

Sales Contact: Prepared By:

Name: Shane Mueller Name: Carol Burrill

Title: Regional Sales Manager Title: Field Sales Support Specialist II

Phone: 970-215-3671 Phone: 970-669-3050 x6246 Email: smueller@hach.com Email: cburrill@hach.com



HACH COMPANY

Headquarters

P.O. Box 389 5600 Lindbergh Drive Loveland, CO 80539-0389

Purchase Orders

PO Box 608

Loveland, CO 80539-0608

Quotation Addendum WebSite: www.hach.com

U.S.A.

Phone: 800-227-4224 Fax: 970-669-2932 E-Mail: orders@hach.com

> quotes@hach.com techhelp@hach.com

Export

Phone: 970-669-3050 Fax: 970-461-3939 Email: intl@hach.com

Remittance

2207 Collections Center Drive Chicago, IL 60693

Wire Transfers

Bank of America 231 S. LaSalle St. Chicago, IL 60604 Account: 8765602385 Routing (ABA): 071000039

ADVANTAGES OF WORKING WITH HACH

Technical Support

Provides post-sale instrumentation and application support

- Hach's highly skilled Technical Support staff is dedicated to helping you resolve technical issues before, during and after the sale.
- Available via phone, e-mail, or live online chat at Hach.com!
- Toll-free phone: 800-227-4224 E-mail: techhelp@hach.com
- www.Hach.com

SIRR Delivery Program

The Scheduled Inventory Reagent Replacement (SIRR) Program offers an uninterrupted supply of reagents

- Lower inventory costs and fresh supplies
- Reduced paperwork one purchase order for the entire year
- Automatic shipments on your schedule
- Easier budgeting

www.Hach.com/sirr

Hach WarrantyPlus™ Upgrade

Instrument Protection and Service

- Savings of more than 20% versus a "pay as you go" approach
- Freedom from maintenance
- Worry-free compliance with Hach's certification
- Fixed maintenance budget for the entire year

www.Hach.com/warrantyplus

ADVANTAGES OF SIMPLIFIED SHIPPING AND HANDLING

Safe & Fast Delivery

- Receive tracking numbers on your order acknowledgement
- Hach will assist with claims if an order is lost or damaged in shipment

Save Time - Less Hassle

- No need to set up deliveries for orders or to schedule pickup
- Hach ships order as product is available, at no additional charge, when simplified shipping and handling is used.

Save Money

- No additional invoice to process save on time and administrative costs
- Only pay shipping once, even if multiple shipments are required

STANDARD SIMPLIFIED SHIPPING AND HANDLING CHARGES 1, 2, 3 Pricing Effective 10/3/2016					Collect ⁴	
Total Price of Merchandise Ordered	Standard Surface (Mainland USA)	Second Day Delivery (Mainland USA)	Next Day Delivery (Mainland USA)	Second Day Delivery (Alaska & Hawaii)	Next Day Delivery (Alaska & Hawaii)	Handling Fee Effective 10/3/2016
\$0.00 - \$49.99	\$11.99	\$29.99	\$54.99	\$44.95	\$85.45	\$7.98
\$50.00 - \$149.99	\$17.79	\$52.45	\$98.97	\$71.64	\$136.19	\$8.21
\$150.00 - \$349.99	\$30.89	\$79.43	\$161.79	\$100.23	\$195.06	\$8.72
\$350.00 - \$649.99	\$41.67	\$108.95	\$216.68	\$136.20	\$263.73	\$9.18
\$650.00 - \$949.99	\$52.77	\$114.40	\$239.39	\$141.65	\$267.00	\$9.50
\$950.00 - \$1,999.99	\$66.39	\$141.16	\$298.48	\$167.98	\$325.04	\$10.37
\$2,000.00 - \$3,999.99	\$76.27	\$151.01	\$305.84	\$173.67	\$330.31	\$11.99
\$4,000.00 - \$5,999.99	\$88.42	\$155.77	\$320.61	\$174.47	\$339.85	\$14.76
\$6,000.00 - \$7,999.99	\$104.48	\$176.56	\$355.05	\$192.45	\$371.02	\$17.22
\$8,000.00 - \$9,999.99	\$119.79	\$201.60	\$393.94	\$215.71	\$409.10	\$19.87
Over \$10,000	2% of Net Order Value	4% of Net Order Value	6% of Net Order Value	4% of Net Order Value	6% of Net Order Value	\$30.43

- Shipping & Handling charges shown are only applicable to orders billing and shipping to U.S. destinations. Shipping & Handling charges will be prepaid and added to invoice. Shipping & Handling for the Reagent Delivery Program is charged on each shipment release and is based on the total price of each shipment release. Shipping & Handling charges are subject to change without notice.
- Additional Shipping & Handling charges will be applied to orders containing bulky and/or especially heavy orders. Refrigerated and all weather Samplers do not qualify for simplified Shipping & Handling charges, and are considered heavy products. Dissolved Oxygen Sensors can be damaged if exposed to temps below freezing, causing sensor failure. Must be shipped over night or 2nd day air during the cold weather months.
- Orders shipping to Alaska or Hawaii: Additional Shipping & Handling charges may be applied at time of order processing. Second Day and Next Day delivery is not available to all destinations.
- Hach Company will assess a collect handling fee on orders with collect shipping terms. This handling fee covers the additional costs that Hach Company incurs from processing and managing collect shipments.

SALES TAX

Sales Tax is not included in the attached quotation. Applicable sales and usage taxes will be added to your invoice, at the time of order, based on U.S. destination of goods, unless a valid resale/exemption certificate for destination state is provided to the above address or fax number, attention of the Tax Dept.

TERMS & CONDITIONS OF SALE FOR HACH COMPANY PRODUCTS AND SERVICES

This document sets forth the Terms & Conditions of Sale for goods manufactured and/or supplied, and services provided, by Hach Company of Loveland, Colorado ("Hach") and sold to the original purchaser thereof ("Buyer"). Unless otherwise specifically stated herein, the term "Hach" includes only Hach Company and none of its affiliates. Unless otherwise specifically stated in a previously-executed written purchase agreement signed by authorized representatives of Hach and Buyer, these Terms & Conditions of Sale establish the rights, obligations and remedies of Hach and Buyer which apply to this offer and any resulting order or contract for the sale of Hach's goods and/or services ("Products").

- APPLICABLE TERMS & CONDITIONS: These Terms & Conditions of Sale are contained directly and/or by reference in Hach's offer, order acknowledgment, and invoice documents. The first of the following acts constitutes an acceptance of Hach's offer and not a counteroffer and creates a contract of sale ("Contract") in accordance with these Terms & Conditions: (i) Buyer's issuance of a purchase order document against Hach's offer; (ii) acknowledgement of Buyer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Buyer's order. Provisions contained in Buyer's purchase documents (including electronic commerce interfaces) that materially alter, add to or subtract from the provisions of these Terms & Conditions of Sale are not a part of the Contract.
- CANCELLATION: Buyer may cancel goods orders subject to fair charges for Hach's expenses including handling, inspection, restocking, freight and invoicing charges as applicable, provided that Buyer returns such goods to Hach at Buyer's expense within 30 days of delivery and in the same condition as received. Buyer may cancel service orders on ninety (90) day's prior written notice and refunds will be prorated based on the duration of the service plan. Inspections and reinstatement fees may apply upon cancellation or expiration of service programs. Seller may cancel all or part of any order prior to delivery without liability if the order includes any Products that Seller determines may not comply with export, safety, local certification, or other applicable compliance requirements.
- 3. DELIVERY: Delivery will be accomplished FCA Hach's facility located in Ames, Iowa or Loveland, Colorado, United States (Incoterms 2010). For orders having a final destination within the U.S., legal title and risk of loss or damage pass to Buyer upon transfer to the first carrier. For orders having a final destination outside the U.S., legal title and risk of loss or damage pass to Buyer when the Products enter international waters or airspace or cross an international frontier. Hach will use commercially reasonable efforts to deliver the Products ordered herein within the time specified on the face of this Contract or, if no time is specified, within Hach's normal lead-time necessary for Hach to deliver the Products sold hereunder. Upon prior agreement with Buyer and for an additional charge, Hach will deliver the Products on an expedited basis. Standard service delivery hours are 8 am - 5 pm Monday through Friday, excluding holidays.
- INSPECTION: Buyer will promptly inspect and accept any Products delivered pursuant to this Contract after receipt of such Products. In the event the Products do not conform to any applicable specifications, Buyer will promptly notify Hach of such nonconformance in writing. Hach will have a reasonable opportunity to repair or replace the nonconforming product at its option. Buyer will be deemed to have accepted any Products delivered hereunder and to have waived any such nonconformance in the event such a written notification is not received by Hach within thirty (30) days of delivery.
- PRICES & ORDER SIZES: All prices are in U.S. dollars and are based on delivery as stated above. Prices do not include any charges for services such as insurance; brokerage fees; sales, use, inventory or excise taxes; import or export duties; special financing fees; VAT, income or royalty taxes imposed outside the U.S.; consular fees; special permits or licenses; or other charges imposed upon the production, sale, distribution, or delivery of Products. Buyer will either pay any and all such charges or provide Hach with acceptable exemption certificates, which obligation survives performance under this Contract. Hach reserves the right to establish minimum order sizes and will advise Buyer accordingly.
- PAYMENTS: All payments must be made in U.S. dollars. For Internet orders, the purchase price is due at the time and manner set forth at www.hach.com. Invoices for all other orders are due and payable NET 30 DAYS from date of the invoice without regard to delays for inspection or transportation, with payments to be made by check to Hach at the above address or by wire transfer to the account stated on the front of Hach's invoice, or for customers with no established credit, Hach may require cash or credit card payment in advance of delivery. In the event payments are not made or not made in a timely manner, Hach may, in addition to all other remedies provided at law, either: (a) declare Buyer's performance in breach and terminate this Contract for default; (b) withhold future shipments until delinquent payments are made; (c) deliver future shipments on a cash-with-order or cash-in-advance basis even after the delinquency is cured; (d) charge interest on the delinquency at a rate of 1-1/2% per month or the maximum rate permitted by law, if lower, for each month or part thereof of delinquency in payment plus applicable storage charges and/or inventory carrying charges; (e) repossess the Products for which payment has not been made; (f) recover all costs of collection

- including reasonable attorney's fees; or (g) combine any of the above rights and remedies as is practicable and permitted by law. Buyer is prohibited from setting off any and all monies owed under this from any other sums, whether liquidated or not, that are or may be due Buyer, which arise out of a different transaction with Hach or any of its affiliates. Should Buyer's financial responsibility become unsatisfactory to Hach in its reasonable discretion, Hach may require cash payment or other security. If Buyer fails to meet these requirements, Hach may treat such failure as reasonable grounds for repudiation of this Contract, in which case reasonable cancellation charges shall be due Hach. Buyer grants Hach a security interest in the Products to secure payment in full, which payment releases the security interest but only if such payments could not be considered an avoidable transfer under the U.S. Bankruptcy Code or other applicable laws. Buyer's insolvency, bankruptcy, assignment for the benefit of creditors, or dissolution or termination of the existence of Buyer, constitutes a default under this Contract and affords Hach all the remedies of a secured party under the U.C.C., as well as the remedies stated above for late payment or non-payment. See \$22 for further wire transfer requirements.
- LIMITED WARRANTY: Hach warrants that Products sold hereunder will be free from defects in material and workmanship and will, when used in accordance with the manufacturer's operating and maintenance instructions, conform to any express written warranty pertaining to the specific goods purchased, which for most Hach instruments is for a period of twelve (12) months from delivery. Hach warrants that services furnished hereunder will be free from defects in workmanship for a period of ninety (90) days from the completion of the services. Parts provided by Hach in the performance of services may be new or refurbished parts functioning equivalent to new parts. Any non-functioning parts that are repaired by Hach shall become the property of Hach. No warranties are extended to consumable items such as, without limitation, reagents, batteries, mercury cells, and light bulbs. All other guarantees, warranties, conditions and representations, either express or implied, whether arising under any statute, law, commercial usage or otherwise, including implied warranties of merchantability and fitness for a particular purpose, are hereby excluded. The sole remedy for Products not meeting this Limited Warranty is replacement, credit or refund of the purchase price. This remedy will not be deemed to have failed of its essential purpose so long as Hach is willing to provide such replacement, credit or refund.
- 8. INDEMNIFICATION: Indemnification applies to a party and to such party's successors-in-interest, assignees, affiliates, directors, officers, and employees ("Indemnified Parties"). Hach is responsible for and will defend, indemnify and hold harmless the Buyer Indemnified Parties against all losses, claims, expenses or damages which may result from accident, injury, damage, or death due to Hach's breach of the Limited Warranty. This indemnification is provided on the condition that the Buyer is likewise responsible for and will defend, indemnify and hold harmless the Hach Indemnified Parties against all losses, claims, expenses or damages which may result from accident, injury, damage, or death due to the negligence or misuse or misapplication of any goods or services by the Buyer or any third party affiliated or in privity with Buyer.
- PATENT PROTECTION: Subject to all limitations of liability provided herein, Hach will, with respect to any Products of Hach's design or manufacture, indemnify Buyer from any and all damages and costs as finally determined by a court of competent jurisdiction in any suit for infringement of any U.S. patent (or European patent for Products that Hach sells to Buyer for end use in a member state of the E.U.) that has issued as of the delivery date, solely by reason of the sale or normal use of any Products sold to Buyer hereunder and from reasonable expenses incurred by Buyer in defense of such suit if Hach does not undertake the defense thereof, provided that Buyer promptly notifies Hach of such suit and offers Hach either (i) full and exclusive control of the defense of such suit when Products of Hach only are involved, or (ii) the right to participate in the defense of such sut when products other than those of Hach are also involved. Hach's warranty as to use patents only applies to infringement arising solely out of the inherent operation of the Products according to their applications as envisioned by Hach's specifications. In case the Products are in such suit held to constitute infringement and the use of the Products is enjoined, Hach will, at its own expense and at its option, either procure for Buyer the right to continue using such Products or replace them with non-infringing products, or modify them so they become non-infringing, or remove the Products and refund the purchase price (prorated for depreciation) and the transportation costs thereof. The foregoing states the entire liability of Hach for patent infringement by the Products. Further, to the same extent as set forth in Hach's above obligation to Buyer, Buyer agrees to defend, indemnify and hold harmless Hach for patent infringement related to (x) any goods manufactured to the Buyer's design, (y) services provided in accordance with the Buyer's instructions, or (z) Hach's Products when used in combination with any other devices, parts or software not provided by Hach hereunder.
- TRADEMARKS AND OTHER LABELS: Buyer agrees not to remove or alter any indicia of manufacturing origin or patent numbers contained on or within the Products, including without limitation the serial numbers or trademarks on nameplates or cast, molded or machined components.



- 11. SOFTWARE. All licenses to Hach's separately-provided software products are subject to the separate software license agreement(s) accompanying the software media. In the absence of such terms and for all other software, Hach grants Buyer only a personal, non-exclusive license to access and use the software provided by Hach with Products purchased hereunder solely as necessary for Buyer to enjoy the benefit of the Products. A portion of the software may contain or consist of open source software, which Buyer may use under the terms and conditions of the specific license under which the open source software is distributed. Buyer agrees that it will be bound by any and all such license agreements. Title to software remains with the applicable licensor(s).
- 12. PROPRIETARY INFORMATION; PRIVACY: "Proprietary Information" means any information, technical data or know-how in whatever form, whether documented, contained in machine readable or physical components, mask works or artwork, or otherwise, which Hach considers proprietary, including but not limited to service and maintenance manuals. Buyer and its customers, employees and agents will keep confidential all such Proprietary Information obtained directly or indirectly from Hach and will not transfer or disclose it without Hach's prior written consent, or use it for the manufacture, procurement, servicing or calibration of Products or any similar products, or cause such products to be manufactured, serviced or calibrated by or procured from any other source, or reproduce or otherwise appropriate it. All such Proprietary Information remains Hach's property. No right or license is granted to Buyer or its customers, employees or agents, expressly or by implication, with respect to the Proprietary Information or any patent right or other proprietary right of Hach, except for the limited use license implied by law. Hach will manage Customer's information and personal data in accordance with its Privacy Policy, located at http://www.hach.com/privacypolicy.
- 13. CHANGES AND ADDITIONAL CHARGES: Hach reserves the right to make design changes or improvements to any products of the same general class as Products being delivered hereunder without liability or obligation to incorporate such changes or improvements to Products ordered by Buyer unless agreed upon in writing before the Products' delivery date. Services which must be performed as a result of any of the following conditions are subject to additional charges for labor, travel and parts: (a) equipment alterations not authorized in writing by Hach; (b) damage resulting from improper use or handling, accident, neglect, power surge, or operation in an environment or manner in which the instrument is not designed to operate or is not in accordance with Hach's operating manuals; (c) the use of parts or accessories not provided by Hach; (d) damage resulting from acts of war, terrorism or nature; (e) services outside standard business hours; (f) site prework not complete per proposal; or (g) any repairs required to ensure equipment meets manufacturer's specifications upon activation of a service agreement.
- SITE ACCESS / PREPARATION / WORKER SAFETY / ENVIRONMENTAL COMPLIANCE: In connection with services provided by Hach, Buyer agrees to permit prompt access to equipment. Buyer assumes full responsibility to back-up or otherwise protect its data against loss, damage or destruction before services are performed. Buyer is the operator and in full control of its premises, including those areas where Hach employees or contractors are performing service, repair and maintenance activities. Buyer will ensure that all necessary measures are taken for safety and security of working conditions, sites and installations during the performance of services. Buyer is the generator of any resulting wastes, including without limitation hazardous wastes. Buyer is solely responsible to arrange for the disposal of any wastes at its own expense. Buyer will, at its own expense, provide Hach employees and contractors working on Buyer's premises with all information and training required under applicable safety compliance regulations and Buyer's policies. If the instrument to be serviced is in a Confined Space, as that term is defined under OSHA regulations, Buyer is solely responsible to make it available to be serviced in an unconfined space. Hach service technicians will not work in Confined Spaces. In the event that a Buyer requires Hach employees or contractors to attend safety or compliance training programs provided by Buyer, Buyer will pay Hach the standard hourly rate and expense reimbursement for such training attended. The attendance at or completion of such training does not create or expand any warranty or obligation of Hach and does not serve to alter, amend, limit or supersede any part of this Contract.
- 15. LIMITATIONS ON USE: Buyer will not use any Products for any purpose other than those identified in Hach's catalogs and literature as intended uses. Unless Hach has advised the Buyer in writing, in no event will Buyer use any Products in drugs, food additives, food or cosmetics, or medical applications for humans or animals. In no event will Buyer use in any application any Product that requires FDA 510(k) clearance unless and only to the extent the Product has such clearance. Any warranty granted by Hach is void if any goods covered by such warranty are used for any purpose not permitted hereunder.
- 16. EXPORT AND IMPORT LICENSES AND COMPLIANCE WITH LAWS: Unless otherwise specified in this Contract, Buyer is responsible for obtaining any required export or import licenses. Hach represents that all Products delivered hereunder will be produced and supplied in compliance with all applicable laws and regulations. Buyer will comply with all laws and regulations applicable to the installation or use of all Products, including applicable import and export control laws and regulations of the U.S., E.U. and any other country having proper jurisdiction, and will obtain all necessary export licenses in connection with any subsequent export, re-export, transfer and use of all Products and technology delivered hereunder. Buyer will not sell, transfer, export or re-export any Hach

- Products or technology for use in activities which involve the design, development, production, use or stockpiling of nuclear, chemical or biological weapons or missiles, nor use Hach Products or technology in any facility which engages in activities relating to such weapons. Buyer will comply with all local, national, and other laws of all jurisdictions globally relating to anti-corruption, bribery, extortion, kickbacks, or similar matters which are applicable to Buyer's business activities in connection with this Contract, including but not limited to the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"). Buyer agrees that no payment of money or provision of anything of value will be offered, promised, paid or transferred, directly or indirectly, by any person or entity, to any government official, government employee, or employee of any company owned in part by a government, political party, political party official, or candidate for any government office or political party office to induce such organizations or persons to use their authority or influence to obtain or retain an improper business advantage for Buyer or for Hach, or which otherwise constitute or have the purpose or effect of public or commercial bribery, acceptance of or acquiescence in extortion, kickbacks or other unlawful or improper means of obtaining business or any improper advantage, with respect to any of Buyer's activities related to this Contract. Hach asks Buyer to "Speak Up!" if aware of any violation of law, regulation or our Standards of Conduct ("SOC") in relation to this Contract. See http://danaher.com/integrity-and- compliance and www.danaherintegrity.com for a copy of the SOC and for access to our Helpline portal.
- 17. FORCE MAJEURE: Hach is excused from performance of its obligations under this Contract to the extent caused by acts or omissions that are beyond its control of, including but not limited to Government embargoes, blockages, seizures or freeze of assets, delays or refusals to grant an export or import license or the suspension or revocation thereof, or any other acts of any Government; fires, floods, severe weather conditions, or any other acts of God; quarantines; labor strikes or lockouts; riots; strife; insurrections; civil disobedience or acts of criminals or terrorists; war; material shortages or delays in deliveries to Hach by third parties. In the event of the existence of any force majeure circumstances, the period of time for delivery, payment terms and payments under any letters of credit will be extended for a period of time equal to the period of delay. If the force majeure circumstances extend for six months, Hach may, at its option, terminate this Contract without penalty and without being deemed in default or in breach thereof.
- 18. NON ASSIGNMENT AND WAIVER: Buyer will not transfer or assign this Contract or any rights or interests hereunder without Hach's prior written consent. Failure of either party to insist upon strict performance of any provision of this Contract, or to exercise any right or privilege contained herein, or the waiver of any breach of the terms or conditions of this Contract will not be construed as thereafter waiving any such terms, conditions, rights, or privileges, and the same will continue and remain in force and effect as if no waiver had occurred.
- 19. LIMITATION OF LIABILITY: None of the Hach Indemnified Parties will be liable to Buyer under any circumstances for any special, treble, incidental or consequential damages, including without limitation, damage to or loss of property other than for the Products purchased hereunder; damages incurred in installation, repair or replacement; lost profits, revenue or opportunity; loss of use; losses resulting from or related to downtime of the products or inaccurate measurements or reporting; the cost of substitute products; or claims of Buyer's customers for such damages, howsoever caused, and whether based on warranty, contract, and/or tort (including negligence, strict liability or otherwise). The total liability of the Hach Indemnified Parties arising out of the performance or nonperformance hereunder or Hach's obligations in connection with the design, manufacture, sale, delivery, and/or use of Products will in no circumstance exceed in the aggregate a sum equal to twice the amount actually paid to Hach for Products delivered hereunder.
- 20. APPLICABLE LAW AND DISPUTE RESOLUTION: The construction, interpretation and performance hereof and all transactions hereunder shall be governed by the laws of the State of Colorado, without regard to its principles or laws regarding conflicts of laws. If any provision of this Contract violates any Federal, State or local statutes or regulations of any countries having jurisdiction of this transaction, or is illegal for any reason, said provision shall be self-deleting without affecting the validity of the remaining provisions. Unless otherwise specifically agreed upon in writing between Hach and Buyer, any dispute relating to this Contract which is not resolved by the parties shall be adjudicated in order of preference by a court of competent jurisdiction (i) in the State of Colorado, U.S.A. if Buyer has minimum contacts with Colorado and the U.S., (ii) elsewhere in the U.S. if Buyer has minimum contacts with the U.S. but not Colorado, or (iii) in a neutral location if Buyer does not have minimum contacts with the United States.
- 21. ENTIRE AGREEMENT & MODIFICATION: These Terms & Conditions of Sale constitute the entire agreement between the parties and supersede any prior agreements or representations, whether oral or written. No change to or modification of these Terms & Conditions shall be binding upon Hach unless in a written instrument specifically referencing that it is amending these Terms & Conditions of Sale and signed by an authorized representative of Hach. Hach rejects any additional or inconsistent Terms & Conditions of Sale offered by Buyer at any time, whether or not such terms or conditions materially alter the Terms & Conditions herein and irrespective of Hach's acceptance of Buyer's order for the described goods and services.

HACH)®

TERMS AND CONDITIONS OF SALE FOR HACH® PRODUCTS

Additional Provisions

22. WIRE TRANSFERS: Buyer and Hach both recognize that there is a risk of wire fraud when individuals impersonating a business demand immediate payment under new wire transfer instructions. To avoid this risk, Buyer must verbally confirm any new or changed wire transfer instructions by calling Hach at +1-970-663-1377 and speaking with Hach's Credit Manager before transferring any monies using the new wire instructions. Both parties agree that they will not institute wire transfer instruction changes and require immediate payment under the new instructions but will instead provide a ten (10) day grace period to verify any wire transfer instruction changes before any outstanding payments are due using the new instructions.

* * *

The Sole Authorized Manufacturer and Direct Distributor Letter

2/14/2017

Customer Name: City of Louisville

Customer Address: 1955 N Washington St **Customer City, State, Zip:** Louisville, CO 80027

Customer Account Number: 833446

Item(s): Description(s):

item(s).	Description(s).
LXV442.99.03012	TU5200, Lab Turb with RFID, EPA
LZV946	Sample vials
LZY835	StablCal Calibration Set with RFID
LZY837	StableCal vials 20 NTU
LZY903	Vial Wiper TU5XXX
LZY901	Glass Rod Secondary turb satand <0.1NTU
LZQ067	Sample RFOD Tab. Pk/3, black
LXV445.99.23212	TU5400sc Turb, Flow, Syschk, RFID, EPA
LXV404.99.00552	SC200 Controller, AC-DC, 2 Digital
5440001	CL17 Free Chlorine Analyzer, 0-5 mg/L
LXV510.99.11010	AF7000 SCM, Autoflush, Grt Filter, 110v 60 hz, US cord

This letter is to confirm that Hach Company is the sole authorized manufacturer and direct distributor of the item/items listed above.

Thank you for your interest in Hach Company Products. If we can be of further assistance, please contact us at 1-800-227-4224.

Thank you





Quote Number: 100235397v2
Use quote number at time of order to ensure that you receive prices quoted

Quotation

Hach PO Box 608

Loveland, CO 80539-0608
Phone: (800) 227-4224
Email: quotes@hach.com
Website: www.hach.com

Quote Expiration: 06-May-2017

CITY OF LOUISVILLE 1955 N WASHINGTON ST LOUISVILLE, CO 80027

Quote Date: 07-Mar-2017

Name: Greg Venette Phone: 7206009577 Fax: (303) 666-4193

Email: gvenette@louisvilleco.gov

Customer Account Number : 833446 Customer Quote Reference: North Plant

Sales Contact: Shane Mueller Email: smueller@hach.com Phone: 970-215-3671

PRICING QUOTATION

Line	Part Number	Description	Qty
1	LPV442.99.03012	ee TU5200, Lab Turb with RFID, EPA	1
2	LZV946	Sample Vials	1
3	LZY835	StablCal Calibration Set w. RFID	1
4	LZY837	StablCal Cal. Vial 20 NTU w. RFID	1
5	LZY903	Vial Wiper TU5xxx	1
6	LZY901	Glass Rod Sec. Turb. Stand. <0,1NTU	1
7	LZQ067	SAMPLE RFID TAG, BLACK, PK/3	1
8	LXV400.99.1G382	sc1000 Probe Module without power cord, 2x 4-20mA Output Card, Prognosys Card, 6 sensors with available conduits	1
9	LXV402.99.00002	db MODULE, DISPLAY W/O GSM, SC1000	1
10	LZX918	CONNECTOR, INTERNAL NTWRK FOR SC1000	2
11	LZY488	sc1000 bus cable-flexible (per foot)	5
12	LXV445.99.23112	db ee TU5300sc TURB,FLOW,SYSCHK,RFID,EPA	8
13	5440001	CL17 Free Chlorine Process Analyzer,0-5 mg/L, (includes one month reagent supply, installation kit, maintenance kit, sample conditioning kit, and manual)	1
14	LXV510.99.11010	52AF7000 SCM, AUTOFLSH, GRT FLTR, 110V 60 Hz, US CORD	1
15	59P	** Field Svc FULL DAY StartUp-PROCESS (P)	1
16	STARTUP TRAVEL	** Field Svc HACH START UP TRAVEL CHG	1
17	WM-MU	WIMS Multi User License with one concurrent user and one facility	1
18	WM-SCADA-INT	SCADA/Historian Interface Module connects to a single SCADA source	1
19	WM-SW	WIMS base software for support contracts.	1
20	DMWIMS-SPT-BAS	WIMS yearly support contract - Basic support is 18% of overall software value	1
21	DM_WIMS-OSTRN-3DAY	Onsite Services Three Day (concurrent) – Project Manager	1
22	NOSHIPOPENPROJ	KEEPS ORDER OPEN FOR WIMS PROJECT DO NOT SHIP ITEM	1
		Grand Total	\$ 49,378.07
-			

NOTES

Hach WIMS Software:

Hach WIMS™ with 3 concurrent users, 1 facility database, 1 year of support (starts on ship date)

MS SQL 2012 Express 10 GB database (Included - requires Windows 7, Windows 8, Server 2008 R2, Server 2008 SP2, Server 2012, or Vista SP2). MS SQL 2005 (4GB limit)can be used on Win XP if required

Standard SCADA Interface for Hach WIMS™ - Iconics:

_Please go to <u>www.hach.com/im</u>, under "Helpful Links" click on Standard SCADA and LIMS Interfaces to review the list of Standard SCADA interfaces currently available. Please verify your system is listed and click on the Documentation link to review the technical details of the interface. Contact IIM Support at 800-667-0067 if you need assistance.

NOTE: If your SCADA system is not on the Hach list of standard interfaces, a custom interface will be required and additional costs will be incurred. Completion of custom interfaces may extend beyond the completion of other aspects of the project but should not delay the use of most WIMS functionality. You should discuss impact to the project schedule with your HACH RSM and Project Manager.

Mobile Data Collection - doFORMS:

_Standard doForms™ Mobile Interface for Hach WIMS™: Using smartphones and tablets running iOS or Android operating systems to collect data in the field

NOTE: Requires, but does not include doForms subscription plan (Professional)

Go to: www.doforms.com for device compatibility and pricing information

Implementation Services (65 Hours):

Typically includes (your Project Manager will finalize the scope of work based on your needs):

- Project Administration
- Consultation to gather information and determine specific needs to create a project plan.
- Remote Basic Install Assistance
- Basic Variable setup Adapting an industry standard list of parameters and calculations for your plant/system.
- Site specific calculation setup
- Up to 10 pages standard regulatory report (MOR, DBR, IFE, etc...) or 100 parameter regulatory eReport
- 1 standard format monthly KPI report with up to 10 user defined KPIs (key performance indicators)
- Predefined dashboard with 10 user defined KPI's and KPI graph set
- 1 standard format yearly summary KPI report with up to 10 user defined KPIs
- Data Entry Form development including 1 Custom Data Entry Form and standard Monthly Data Entry Forms for all parameters
- Additional scope/work, billed at our standard labor rate, can be requested and will require a change order.
- Implementation assumes internet access is available at installation site.
- Data Migration services are NOT included. Historical data may be imported from SCADA/LIMS systems with Purchased Interfaces.

Mobile Interface installation, configuration and training (5 hours):

- Remote installation of the interface
- Configuration of the interface
- Form Setup Training
- Enable the web services for your forms
- Cross reference up to 10 variables to Hach WIMS
- Training on how to capture data and how to send the data to your Hach WIMS

Prerequisite: Must have doForms professional account set up and a device with the doForms application installed.

Note: Additional form setup/scope/work is billed at our standard labor rate, can be requested and will require a change order. An additional hour is required for each 10 variables with cross referencing.

Onsite Training and Services

- _3 Days Onsite Training and Services
 - Installation Review
 - Training Basic, Advanced, and Admin (A Hach project manager will create a training agenda based on training requirements)
- SCADA Interface installation, configuration and training. Up to 40 variables will be cross referenced. Customer will be trained on how to cross-reference additional variables.

TERMS OF SALE

FCA: Hach's facility

Prepared By:

Freight: Ground Prepay and Add

All purchases of Hach Company products and/or services are expressly and without limitation subject to Hach Company's Terms & Conditions of Sale ("Hach TCS"), incorporated herein by reference and published on Hach Company's website at www.hach.com/terms. Hach TCS are contained directly and/or by reference in Hach's offer, order acknowledgment, and invoice documents. The first of the following acts constitutes an acceptance of Hach's offer and not a counteroffer and creates a contract of sale "Contract" in accordance with the Hach TCS: (i)

Buyer's issuance of a purchase order document against Hach's offer; (ii) acknowledgement of Buyer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Buyer's order. Provisions contained in Buyer's purchase documents (including electronic commerce interfaces) that materially alter, add to or subtract from the provisions of the Hach TCS are not part of the Contract.

Due to International regulations, a U.S. Department of Commerce Export License may be required. Hach reserves the right to approve specific shipping agents. Wooden boxes suitable for ocean shipment are extra. Specify final destination to ensure proper documentation and packing suitable for International transport. In addition, Hach may require: 1). A statement of intended end-use; 2). Certification that the intended end-use does not relate to proliferation of weapons of mass destruction (prohibited nuclear end use, chemical / biological weapons, missile technology); and 3). Certification that the goods will not be diverted contrary to U.S. law.

ORDER TERMS:

Terms are Subject to Credit Review

Please reference the quotation number on your purchase order.

Sales tax is not included. Applicable sales tax will be added to the invoice based on the U.S. destination, if applicable provide a resale/exemption certificate.

Shipments will be prepaid and added to invoices unless otherwise specified.

Equipment quoted operates with standard U.S. supply voltage.

Hach standard terms and conditions apply to all sales.

Additional terms and conditions apply to orders for service partnerships.

Prices do not include delivery of product. Reference attached Freight Charge Schedule and Collect Handling Fees.

Standard lead time is 30 days.

This Quote is good for a one time purchase.

Sales Contact:

Name: Shane Mueller Name: Carol Burrill

Title: Regional Sales Manager Title: Field Sales Support Specialist II

 Phone:
 970-215-3671
 Phone:
 970-669-3050 x6246

 Email:
 smueller@hach.com
 Email:
 cburrill@hach.com



HACH COMPANY

Headquarters

P.O. Box 389 5600 Lindbergh Drive Loveland, CO 80539-0389

Purchase Orders

PO Box 608

Loveland, CO 80539-0608

Quotation Addendum WebSite: www.hach.com

U.S.A.

Phone: 800-227-4224 Fax: 970-669-2932 E-Mail: orders@hach.com

> quotes@hach.com techhelp@hach.com

Export

Phone: 970-669-3050 Fax: 970-461-3939 Email: intl@hach.com

Remittance

2207 Collections Center Drive Chicago, IL 60693

Wire Transfers

Bank of America 231 S. LaSalle St. Chicago, IL 60604 Account: 8765602385 Routing (ABA): 071000039

ADVANTAGES OF WORKING WITH HACH

Technical Support

Provides post-sale instrumentation and application support

- Hach's highly skilled Technical Support staff is dedicated to helping you resolve technical issues before, during and after the sale.
- Available via phone, e-mail, or live online chat at Hach.com!
- Toll-free phone: 800-227-4224 E-mail: techhelp@hach.com
- www.Hach.com

SIRR Delivery Program

The Scheduled Inventory Reagent Replacement (SIRR) Program offers an uninterrupted supply of reagents

- Lower inventory costs and fresh supplies
- Reduced paperwork one purchase order for the entire year
- Automatic shipments on your schedule
- Easier budgeting

www.Hach.com/sirr

Hach WarrantyPlus™ Upgrade

Instrument Protection and Service

- Savings of more than 20% versus a "pay as you go" approach
- Freedom from maintenance
- Worry-free compliance with Hach's certification
- Fixed maintenance budget for the entire year

www.Hach.com/warrantyplus

ADVANTAGES OF SIMPLIFIED SHIPPING AND HANDLING

Safe & Fast Delivery

- Receive tracking numbers on your order acknowledgement
- Hach will assist with claims if an order is lost or damaged in shipment

Save Time - Less Hassle

- No need to set up deliveries for orders or to schedule pickup
- Hach ships order as product is available, at no additional charge, when simplified shipping and handling is used.

Save Money

- No additional invoice to process save on time and administrative costs
- Only pay shipping once, even if multiple shipments are required

STANDARD SIMPLIFIED SHIPPING AND HANDLING CHARGES 1, 2, 3 Pricing Effective 10/3/2016					Collect ⁴	
Total Price of Merchandise Ordered	Standard Surface (Mainland USA)	Second Day Delivery (Mainland USA)	Next Day Delivery (Mainland USA)	Second Day Delivery (Alaska & Hawaii)	Next Day Delivery (Alaska & Hawaii)	Handling Fee Effective 10/3/2016
\$0.00 - \$49.99	\$11.99	\$29.99	\$54.99	\$44.95	\$85.45	\$7.98
\$50.00 - \$149.99	\$17.79	\$52.45	\$98.97	\$71.64	\$136.19	\$8.21
\$150.00 - \$349.99	\$30.89	\$79.43	\$161.79	\$100.23	\$195.06	\$8.72
\$350.00 - \$649.99	\$41.67	\$108.95	\$216.68	\$136.20	\$263.73	\$9.18
\$650.00 - \$949.99	\$52.77	\$114.40	\$239.39	\$141.65	\$267.00	\$9.50
\$950.00 - \$1,999.99	\$66.39	\$141.16	\$298.48	\$167.98	\$325.04	\$10.37
\$2,000.00 - \$3,999.99	\$76.27	\$151.01	\$305.84	\$173.67	\$330.31	\$11.99
\$4,000.00 - \$5,999.99	\$88.42	\$155.77	\$320.61	\$174.47	\$339.85	\$14.76
\$6,000.00 - \$7,999.99	\$104.48	\$176.56	\$355.05	\$192.45	\$371.02	\$17.22
\$8,000.00 - \$9,999.99	\$119.79	\$201.60	\$393.94	\$215.71	\$409.10	\$19.87
Over \$10,000	2% of Net Order Value	4% of Net Order Value	6% of Net Order Value	4% of Net Order Value	6% of Net Order Value	\$30.43

- Shipping & Handling charges shown are only applicable to orders billing and shipping to U.S. destinations. Shipping & Handling charges will be prepaid and added to invoice. Shipping & Handling for the Reagent Delivery Program is charged on each shipment release and is based on the total price of each shipment release. Shipping & Handling charges are subject to change without notice.
- Additional Shipping & Handling charges will be applied to orders containing bulky and/or especially heavy orders. Refrigerated and all weather Samplers do not qualify for simplified Shipping & Handling charges, and are considered heavy products. Dissolved Oxygen Sensors can be damaged if exposed to temps below freezing, causing sensor failure. Must be shipped over night or 2nd day air during the cold weather months.
- Orders shipping to Alaska or Hawaii: Additional Shipping & Handling charges may be applied at time of order processing. Second Day and Next Day delivery is not available to all destinations.
- Hach Company will assess a collect handling fee on orders with collect shipping terms. This handling fee covers the additional costs that Hach Company incurs from processing and managing collect shipments.

SALES TAX

Sales Tax is not included in the attached quotation. Applicable sales and usage taxes will be added to your invoice, at the time of order, based on U.S. destination of goods, unless a valid resale/exemption certificate for destination state is provided to the above address or fax number, attention of the Tax Dept.

TERMS & CONDITIONS OF SALE FOR HACH COMPANY PRODUCTS AND SERVICES

This document sets forth the Terms & Conditions of Sale for goods manufactured and/or supplied, and services provided, by Hach Company of Loveland, Colorado ("Hach") and sold to the original purchaser thereof ("Buyer"). Unless otherwise specifically stated herein, the term "Hach" includes only Hach Company and none of its affiliates. Unless otherwise specifically stated in a previously-executed written purchase agreement signed by authorized representatives of Hach and Buyer, these Terms & Conditions of Sale establish the rights, obligations and remedies of Hach and Buyer which apply to this offer and any resulting order or contract for the sale of Hach's goods and/or services ("Products").

- APPLICABLE TERMS & CONDITIONS: These Terms & Conditions of Sale are contained directly and/or by reference in Hach's offer, order acknowledgment, and invoice documents. The first of the following acts constitutes an acceptance of Hach's offer and not a counteroffer and creates a contract of sale ("Contract") in accordance with these Terms & Conditions: (i) Buyer's issuance of a purchase order document against Hach's offer; (ii) acknowledgement of Buyer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Buyer's order. Provisions contained in Buyer's purchase documents (including electronic commerce interfaces) that materially alter, add to or subtract from the provisions of these Terms & Conditions of Sale are not a part of the Contract.
- CANCELLATION: Buyer may cancel goods orders subject to fair charges for Hach's expenses including handling, inspection, restocking, freight and invoicing charges as applicable, provided that Buyer returns such goods to Hach at Buyer's expense within 30 days of delivery and in the same condition as received. Buyer may cancel service orders on ninety (90) day's prior written notice and refunds will be prorated based on the duration of the service plan. Inspections and reinstatement fees may apply upon cancellation or expiration of service programs. Seller may cancel all or part of any order prior to delivery without liability if the order includes any Products that Seller determines may not comply with export, safety, local certification, or other applicable compliance requirements.
- 3. DELIVERY: Delivery will be accomplished FCA Hach's facility located in Ames, Iowa or Loveland, Colorado, United States (Incoterms 2010). For orders having a final destination within the U.S., legal title and risk of loss or damage pass to Buyer upon transfer to the first carrier. For orders having a final destination outside the U.S., legal title and risk of loss or damage pass to Buyer when the Products enter international waters or airspace or cross an international frontier. Hach will use commercially reasonable efforts to deliver the Products ordered herein within the time specified on the face of this Contract or, if no time is specified, within Hach's normal lead-time necessary for Hach to deliver the Products sold hereunder. Upon prior agreement with Buyer and for an additional charge, Hach will deliver the Products on an expedited basis. Standard service delivery hours are 8 am - 5 pm Monday through Friday, excluding holidays.
- INSPECTION: Buyer will promptly inspect and accept any Products delivered pursuant to this Contract after receipt of such Products. In the event the Products do not conform to any applicable specifications, Buyer will promptly notify Hach of such nonconformance in writing. Hach will have a reasonable opportunity to repair or replace the nonconforming product at its option. Buyer will be deemed to have accepted any Products delivered hereunder and to have waived any such nonconformance in the event such a written notification is not received by Hach within thirty (30) days of delivery.
- PRICES & ORDER SIZES: All prices are in U.S. dollars and are based on delivery as stated above. Prices do not include any charges for services such as insurance; brokerage fees; sales, use, inventory or excise taxes; import or export duties; special financing fees; VAT, income or royalty taxes imposed outside the U.S.; consular fees; special permits or licenses; or other charges imposed upon the production, sale, distribution, or delivery of Products. Buyer will either pay any and all such charges or provide Hach with acceptable exemption certificates, which obligation survives performance under this Contract. Hach reserves the right to establish minimum order sizes and will advise Buyer accordingly.
- PAYMENTS: All payments must be made in U.S. dollars. For Internet orders, the purchase price is due at the time and manner set forth at www.hach.com. Invoices for all other orders are due and payable NET 30 DAYS from date of the invoice without regard to delays for inspection or transportation, with payments to be made by check to Hach at the above address or by wire transfer to the account stated on the front of Hach's invoice, or for customers with no established credit, Hach may require cash or credit card payment in advance of delivery. In the event payments are not made or not made in a timely manner, Hach may, in addition to all other remedies provided at law, either: (a) declare Buyer's performance in breach and terminate this Contract for default; (b) withhold future shipments until delinquent payments are made; (c) deliver future shipments on a cash-with-order or cash-in-advance basis even after the delinquency is cured; (d) charge interest on the delinquency at a rate of 1-1/2% per month or the maximum rate permitted by law, if lower, for each month or part thereof of delinquency in payment plus applicable storage charges and/or inventory carrying charges; (e) repossess the Products for which payment has not been made; (f) recover all costs of collection

- including reasonable attorney's fees; or (g) combine any of the above rights and remedies as is practicable and permitted by law. Buyer is prohibited from setting off any and all monies owed under this from any other sums, whether liquidated or not, that are or may be due Buyer, which arise out of a different transaction with Hach or any of its affiliates. Should Buyer's financial responsibility become unsatisfactory to Hach in its reasonable discretion, Hach may require cash payment or other security. If Buyer fails to meet these requirements, Hach may treat such failure as reasonable grounds for repudiation of this Contract, in which case reasonable cancellation charges shall be due Hach. Buyer grants Hach a security interest in the Products to secure payment in full, which payment releases the security interest but only if such payments could not be considered an avoidable transfer under the U.S. Bankruptcy Code or other applicable laws. Buyer's insolvency, bankruptcy, assignment for the benefit of creditors, or dissolution or termination of the existence of Buyer, constitutes a default under this Contract and affords Hach all the remedies of a secured party under the U.C.C., as well as the remedies stated above for late payment or non-payment. See \$22 for further wire transfer requirements.
- LIMITED WARRANTY: Hach warrants that Products sold hereunder will be free from defects in material and workmanship and will, when used in accordance with the manufacturer's operating and maintenance instructions, conform to any express written warranty pertaining to the specific goods purchased, which for most Hach instruments is for a period of twelve (12) months from delivery. Hach warrants that services furnished hereunder will be free from defects in workmanship for a period of ninety (90) days from the completion of the services. Parts provided by Hach in the performance of services may be new or refurbished parts functioning equivalent to new parts. Any non-functioning parts that are repaired by Hach shall become the property of Hach. No warranties are extended to consumable items such as, without limitation, reagents, batteries, mercury cells, and light bulbs. All other guarantees, warranties, conditions and representations, either express or implied, whether arising under any statute, law, commercial usage or otherwise, including implied warranties of merchantability and fitness for a particular purpose, are hereby excluded. The sole remedy for Products not meeting this Limited Warranty is replacement, credit or refund of the purchase price. This remedy will not be deemed to have failed of its essential purpose so long as Hach is willing to provide such replacement, credit or refund.
- 8. INDEMNIFICATION: Indemnification applies to a party and to such party's successors-in-interest, assignees, affiliates, directors, officers, and employees ("Indemnified Parties"). Hach is responsible for and will defend, indemnify and hold harmless the Buyer Indemnified Parties against all losses, claims, expenses or damages which may result from accident, injury, damage, or death due to Hach's breach of the Limited Warranty. This indemnification is provided on the condition that the Buyer is likewise responsible for and will defend, indemnify and hold harmless the Hach Indemnified Parties against all losses, claims, expenses or damages which may result from accident, injury, damage, or death due to the negligence or misuse or misapplication of any goods or services by the Buyer or any third party affiliated or in privity with Buyer.
- PATENT PROTECTION: Subject to all limitations of liability provided herein, Hach will, with respect to any Products of Hach's design or manufacture, indemnify Buyer from any and all damages and costs as finally determined by a court of competent jurisdiction in any suit for infringement of any U.S. patent (or European patent for Products that Hach sells to Buyer for end use in a member state of the E.U.) that has issued as of the delivery date, solely by reason of the sale or normal use of any Products sold to Buyer hereunder and from reasonable expenses incurred by Buyer in defense of such suit if Hach does not undertake the defense thereof, provided that Buyer promptly notifies Hach of such suit and offers Hach either (i) full and exclusive control of the defense of such suit when Products of Hach only are involved, or (ii) the right to participate in the defense of such sut when products other than those of Hach are also involved. Hach's warranty as to use patents only applies to infringement arising solely out of the inherent operation of the Products according to their applications as envisioned by Hach's specifications. In case the Products are in such suit held to constitute infringement and the use of the Products is enjoined, Hach will, at its own expense and at its option, either procure for Buyer the right to continue using such Products or replace them with non-infringing products, or modify them so they become non-infringing, or remove the Products and refund the purchase price (prorated for depreciation) and the transportation costs thereof. The foregoing states the entire liability of Hach for patent infringement by the Products. Further, to the same extent as set forth in Hach's above obligation to Buyer, Buyer agrees to defend, indemnify and hold harmless Hach for patent infringement related to (x) any goods manufactured to the Buyer's design, (y) services provided in accordance with the Buyer's instructions, or (z) Hach's Products when used in combination with any other devices, parts or software not provided by Hach hereunder.
- TRADEMARKS AND OTHER LABELS: Buyer agrees not to remove or alter any indicia of manufacturing origin or patent numbers contained on or within the Products, including without limitation the serial numbers or trademarks on nameplates or cast, molded or machined components.



- 11. SOFTWARE. All licenses to Hach's separately-provided software products are subject to the separate software license agreement(s) accompanying the software media. In the absence of such terms and for all other software, Hach grants Buyer only a personal, non-exclusive license to access and use the software provided by Hach with Products purchased hereunder solely as necessary for Buyer to enjoy the benefit of the Products. A portion of the software may contain or consist of open source software, which Buyer may use under the terms and conditions of the specific license under which the open source software is distributed. Buyer agrees that it will be bound by any and all such license agreements. Title to software remains with the applicable licensor(s).
- 12. PROPRIETARY INFORMATION; PRIVACY: "Proprietary Information" means any information, technical data or know-how in whatever form, whether documented, contained in machine readable or physical components, mask works or artwork, or otherwise, which Hach considers proprietary, including but not limited to service and maintenance manuals. Buyer and its customers, employees and agents will keep confidential all such Proprietary Information obtained directly or indirectly from Hach and will not transfer or disclose it without Hach's prior written consent, or use it for the manufacture, procurement, servicing or calibration of Products or any similar products, or cause such products to be manufactured, serviced or calibrated by or procured from any other source, or reproduce or otherwise appropriate it. All such Proprietary Information remains Hach's property. No right or license is granted to Buyer or its customers, employees or agents, expressly or by implication, with respect to the Proprietary Information or any patent right or other proprietary right of Hach, except for the limited use license implied by law. Hach will manage Customer's information and personal data in accordance with its Privacy Policy, located at http://www.hach.com/privacypolicy.
- 13. CHANGES AND ADDITIONAL CHARGES: Hach reserves the right to make design changes or improvements to any products of the same general class as Products being delivered hereunder without liability or obligation to incorporate such changes or improvements to Products ordered by Buyer unless agreed upon in writing before the Products' delivery date. Services which must be performed as a result of any of the following conditions are subject to additional charges for labor, travel and parts: (a) equipment alterations not authorized in writing by Hach; (b) damage resulting from improper use or handling, accident, neglect, power surge, or operation in an environment or manner in which the instrument is not designed to operate or is not in accordance with Hach's operating manuals; (c) the use of parts or accessories not provided by Hach; (d) damage resulting from acts of war, terrorism or nature; (e) services outside standard business hours; (f) site prework not complete per proposal; or (g) any repairs required to ensure equipment meets manufacturer's specifications upon activation of a service agreement.
- SITE ACCESS / PREPARATION / WORKER SAFETY / ENVIRONMENTAL COMPLIANCE: In connection with services provided by Hach, Buyer agrees to permit prompt access to equipment. Buyer assumes full responsibility to back-up or otherwise protect its data against loss, damage or destruction before services are performed. Buyer is the operator and in full control of its premises, including those areas where Hach employees or contractors are performing service, repair and maintenance activities. Buyer will ensure that all necessary measures are taken for safety and security of working conditions, sites and installations during the performance of services. Buyer is the generator of any resulting wastes, including without limitation hazardous wastes. Buyer is solely responsible to arrange for the disposal of any wastes at its own expense. Buyer will, at its own expense, provide Hach employees and contractors working on Buyer's premises with all information and training required under applicable safety compliance regulations and Buyer's policies. If the instrument to be serviced is in a Confined Space, as that term is defined under OSHA regulations, Buyer is solely responsible to make it available to be serviced in an unconfined space. Hach service technicians will not work in Confined Spaces. In the event that a Buyer requires Hach employees or contractors to attend safety or compliance training programs provided by Buyer, Buyer will pay Hach the standard hourly rate and expense reimbursement for such training attended. The attendance at or completion of such training does not create or expand any warranty or obligation of Hach and does not serve to alter, amend, limit or supersede any part of this Contract.
- 15. LIMITATIONS ON USE: Buyer will not use any Products for any purpose other than those identified in Hach's catalogs and literature as intended uses. Unless Hach has advised the Buyer in writing, in no event will Buyer use any Products in drugs, food additives, food or cosmetics, or medical applications for humans or animals. In no event will Buyer use in any application any Product that requires FDA 510(k) clearance unless and only to the extent the Product has such clearance. Any warranty granted by Hach is void if any goods covered by such warranty are used for any purpose not permitted hereunder.
- 16. EXPORT AND IMPORT LICENSES AND COMPLIANCE WITH LAWS: Unless otherwise specified in this Contract, Buyer is responsible for obtaining any required export or import licenses. Hach represents that all Products delivered hereunder will be produced and supplied in compliance with all applicable laws and regulations. Buyer will comply with all laws and regulations applicable to the installation or use of all Products, including applicable import and export control laws and regulations of the U.S., E.U. and any other country having proper jurisdiction, and will obtain all necessary export licenses in connection with any subsequent export, re-export, transfer and use of all Products and technology delivered hereunder. Buyer will not sell, transfer, export or re-export any Hach

- Products or technology for use in activities which involve the design, development, production, use or stockpiling of nuclear, chemical or biological weapons or missiles, nor use Hach Products or technology in any facility which engages in activities relating to such weapons. Buyer will comply with all local, national, and other laws of all jurisdictions globally relating to anti-corruption, bribery, extortion, kickbacks, or similar matters which are applicable to Buyer's business activities in connection with this Contract, including but not limited to the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"). Buyer agrees that no payment of money or provision of anything of value will be offered, promised, paid or transferred, directly or indirectly, by any person or entity, to any government official, government employee, or employee of any company owned in part by a government, political party, political party official, or candidate for any government office or political party office to induce such organizations or persons to use their authority or influence to obtain or retain an improper business advantage for Buyer or for Hach, or which otherwise constitute or have the purpose or effect of public or commercial bribery, acceptance of or acquiescence in extortion, kickbacks or other unlawful or improper means of obtaining business or any improper advantage, with respect to any of Buyer's activities related to this Contract. Hach asks Buyer to "Speak Up!" if aware of any violation of law, regulation or our Standards of Conduct ("SOC") in relation to this Contract. See http://danaher.com/integrity-and- compliance and www.danaherintegrity.com for a copy of the SOC and for access to our Helpline portal.
- 17. FORCE MAJEURE: Hach is excused from performance of its obligations under this Contract to the extent caused by acts or omissions that are beyond its control of, including but not limited to Government embargoes, blockages, seizures or freeze of assets, delays or refusals to grant an export or import license or the suspension or revocation thereof, or any other acts of any Government; fires, floods, severe weather conditions, or any other acts of God; quarantines; labor strikes or lockouts; riots; strife; insurrections; civil disobedience or acts of criminals or terrorists; war; material shortages or delays in deliveries to Hach by third parties. In the event of the existence of any force majeure circumstances, the period of time for delivery, payment terms and payments under any letters of credit will be extended for a period of time equal to the period of delay. If the force majeure circumstances extend for six months, Hach may, at its option, terminate this Contract without penalty and without being deemed in default or in breach thereof.
- 18. NON ASSIGNMENT AND WAIVER: Buyer will not transfer or assign this Contract or any rights or interests hereunder without Hach's prior written consent. Failure of either party to insist upon strict performance of any provision of this Contract, or to exercise any right or privilege contained herein, or the waiver of any breach of the terms or conditions of this Contract will not be construed as thereafter waiving any such terms, conditions, rights, or privileges, and the same will continue and remain in force and effect as if no waiver had occurred.
- 19. LIMITATION OF LIABILITY: None of the Hach Indemnified Parties will be liable to Buyer under any circumstances for any special, treble, incidental or consequential damages, including without limitation, damage to or loss of property other than for the Products purchased hereunder; damages incurred in installation, repair or replacement; lost profits, revenue or opportunity; loss of use; losses resulting from or related to downtime of the products or inaccurate measurements or reporting; the cost of substitute products; or claims of Buyer's customers for such damages, howsoever caused, and whether based on warranty, contract, and/or tort (including negligence, strict liability or otherwise). The total liability of the Hach Indemnified Parties arising out of the performance or nonperformance hereunder or Hach's obligations in connection with the design, manufacture, sale, delivery, and/or use of Products will in no circumstance exceed in the aggregate a sum equal to twice the amount actually paid to Hach for Products delivered hereunder.
- 20. APPLICABLE LAW AND DISPUTE RESOLUTION: The construction, interpretation and performance hereof and all transactions hereunder shall be governed by the laws of the State of Colorado, without regard to its principles or laws regarding conflicts of laws. If any provision of this Contract violates any Federal, State or local statutes or regulations of any countries having jurisdiction of this transaction, or is illegal for any reason, said provision shall be self-deleting without affecting the validity of the remaining provisions. Unless otherwise specifically agreed upon in writing between Hach and Buyer, any dispute relating to this Contract which is not resolved by the parties shall be adjudicated in order of preference by a court of competent jurisdiction (i) in the State of Colorado, U.S.A. if Buyer has minimum contacts with Colorado and the U.S., (ii) elsewhere in the U.S. if Buyer has minimum contacts with the U.S. but not Colorado, or (iii) in a neutral location if Buyer does not have minimum contacts with the United States.
- 21. ENTIRE AGREEMENT & MODIFICATION: These Terms & Conditions of Sale constitute the entire agreement between the parties and supersede any prior agreements or representations, whether oral or written. No change to or modification of these Terms & Conditions shall be binding upon Hach unless in a written instrument specifically referencing that it is amending these Terms & Conditions of Sale and signed by an authorized representative of Hach. Hach rejects any additional or inconsistent Terms & Conditions of Sale offered by Buyer at any time, whether or not such terms or conditions materially alter the Terms & Conditions herein and irrespective of Hach's acceptance of Buyer's order for the described goods and services.

HACH)®

TERMS AND CONDITIONS OF SALE FOR HACH® PRODUCTS

Additional Provisions

22. WIRE TRANSFERS: Buyer and Hach both recognize that there is a risk of wire fraud when individuals impersonating a business demand immediate payment under new wire transfer instructions. To avoid this risk, Buyer must verbally confirm any new or changed wire transfer instructions by calling Hach at +1-970-663-1377 and speaking with Hach's Credit Manager before transferring any monies using the new wire instructions. Both parties agree that they will not institute wire transfer instruction changes and require immediate payment under the new instructions but will instead provide a ten (10) day grace period to verify any wire transfer instruction changes before any outstanding payments are due using the new instructions.

* * *

The Sole Authorized Manufacturer and Direct Distributor Letter

2/14/2017

Customer Name: City of Louisville

Customer Address: 1955 N Washington St **Customer City, State, Zip:** Louisville, CO 80027

Customer Account Number: 833446

Item(s): Description(s):

item(s).	Description(s).
LXV442.99.03012	TU5200, Lab Turb with RFID, EPA
LZV946	Sample vials
LZY835	StablCal Calibration Set with RFID
LZY837	StableCal vials 20 NTU
LZY903	Vial Wiper TU5XXX
LZY901	Glass Rod Secondary turb satand <0.1NTU
LZQ067	Sample RFOD Tab. Pk/3, black
LXV445.99.23212	TU5400sc Turb, Flow, Syschk, RFID, EPA
LXV404.99.00552	SC200 Controller, AC-DC, 2 Digital
5440001	CL17 Free Chlorine Analyzer, 0-5 mg/L
LXV510.99.11010	AF7000 SCM, Autoflush, Grt Filter, 110v 60 hz, US cord

This letter is to confirm that Hach Company is the sole authorized manufacturer and direct distributor of the item/items listed above.

Thank you for your interest in Hach Company Products. If we can be of further assistance, please contact us at 1-800-227-4224.

Thank you





HACH SERVICE PARTNERSHIP QUOTATION

Headquarters P.O. Box 389 5600 Lindbergh Drive Loveland, CO 80539-0389

Purchase Orders

Page: 1 Partnership Number: H

WebSite: www.hach.com

1 of 6 HACH49484

Remittance

2207 Collections Center Dr Chicago, IL 60693

Wire Transfers
Bank of America
231 S. LaSalle St.
Chicago, IL 60604
Account: 8765602385
Routing (ABA): 026009593

r

Partnership Version: 0.61 Quotation Date : 21-JUN-17

Number: HACH49484

Expiration Date: 19-SEP-17

Hach Company Service Partnership Service Partnership

Contact : Finch, Leslie J Phone : Email : Ifinch@hach.com

Customer Ref : RENEWAL QUOTE Customer Contact: VENETTE, GREG

Customer Phone: 6009577 Customer Fax: Customer Email: GVENETTE@IOUISVILLEC

O.GOV

Bill-To Account # 094039 Ship-To Account # 094039

Customer Name CITY OF LOUISVILLE Customer CITY OF LOUISVILLE Payment Terms: Net 45

Name

Address4 WTR PLT Billing Method: Annual-Invoices on

START Date

Address1 749 MAIN ST Address1 1955 NORTH WASHINGTON Currency: USD

Address2 Address2

Address3 Address3

City, State, LOUISVILLE-CO-80027-189 City, State,

PostalCode 6 Postalcode LOUISVILLE-CO-80027

Province/ US Province/ US

Country

Line	ine Service Name		Line Total			
	Covered Produ	ıct	Start Date	End Date	Description/Serial Number	
1	FSPCL17		19-SEP-17	18-SEP-18	Fld Svc-2V CL17 Cl(current) Field Service includes: All parts, labor, and travel for on-site repairs, 2 on-site calibrations per year, factory recommended maintenance (including required parts), unlimited technical support calls, and free firmware updates. Please see service terms and conditions for additional details on our service plans, and to ensure you have an opportunity to review our environmental and safety requirements.	\$2,021.40
	1.1	5440000			CL17 FINAL ASSEMBLY W/KITS; 060700016137	
	1.2	5440000			CL17 FINAL ASSEMBLY W/KITS; 050900013698	



HACH SERVICE PARTNERSHIP **QUOTATION**

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Headquarters P.O. Box 389

Purchase Orders

5600 Lindbergh Drive Loveland, CO 80539-0389

WebSite: www.hach.com

WarrantyPlus Service Agreement includes: All parts, labor, and travel

Partnership Number:

Page

Remittance 2207 Collections Center Dr

Chicago, IL 60693

Wire Transfers
Bank of America
231 S. LaSalle St. Chicago, IL 60604 Account: 8765602385 Routing (ABA): 026009593

2	FSP2200PCX		19-SEP-17	18-SEP-18	Fld Svc-1V 2200PCX Particle Cntr	\$7,833.60
	2.1	2084433-01			PCX/ANA I/O KIT/WWEIR ; 0905332001	**,
	2.2	2084433-01			PCX/ANA I/O KIT/WWEIR;	
	2.3	2084433-01	0905332003		0905332003 PCX/ANA I/O KIT/WWEIR ;	
	2.0	2004400 01			0905332004	
	2.4	2084433-01			PCX/ANA I/O KIT/WWEIR ;	
	2.5	2084433-01			070405011 PCX/ANA I/O KIT/WWEIR ;	
	2.0	2001100 01			080105007	
	2.6	2084433-01			PCX/ANA I/O KIT/WWEIR ;	
	2.7	2084433-01			080105022 PCX/ANA I/O KIT/WWEIR ;	
	2.7	2001100 01			080105023	
	2.8	2084433-01			PCX/ANA I/O KIT/WWEIR ;	
3	DCDDI LICDDA	-000	40 CED 47	40 CED 40	080105027	¢4 200 00
3	BSPPLUSDR5	0000	19-SEP-17	18-SEP-18	BenchPlus-DR5000 The Bench Service Plus includes:	\$1,206.90
					Factory repairs only, one Start-up	
					or one PM/Calibration on site per	
					year, unlimited technical support	
					calls and free software upgrades	
					on your instrument. Travel is	
					included for one on-site visit.	
					Additional visits may be billable.	
	3.1	DR5000-03			oo aa rr DR 5000 UV/VIS	
	0.1	D110000 00			SPECTRO ; 1433331	
4	BSPPLUSDR3	3900	19-SEP-17	18-SEP-18	BenchPlus-DR3900:19-SEP-17:18- SEP-18	\$756.90
					The Bench Service Plus includes:	
					Factory repairs only, one Start-up	
					or one PM/Calibration on site per	
					year, unlimited technical support	
					calls and free software upgrades	
					on your instrument. Travel is	
					included for one on-site visit.	
					Additional visits may be billable.	
	4.1	LPV440.99.00012			db aa DR3900	
					SPECTROPHOTOMETER WITH	
					RFID; 1490503	
5	FSPSS7		19-SEP-17	18-SEP-18	Fld Svc-2V Surface Scatter 7	\$773.10
6	5.1 FSPAF7000		19-SEP-17	18-SEP-18	99MISC S INSTR Field Service Partnership for	\$3,969.00
U	FSFAF/UUU		19-355-17	10-955-10	AF7000 - 2 visits	φ3, 3 03.00
	6.1				99MISC S INSTR	
	6.2				99MISC S INSTR	
7	WRTUPGTU5	3XX - 4 VISIT	19-SEP-17	18-SEP-18	WarrantyPlus TU53XX 4	\$8,751.60
					Visit:19-SEP-17:18-SEP-18	



	Page :	3 of 6
HACH SERVICE PARTNERSHIP	Partnership Number:	HACH49484
QUOTATION	•	
Headquarters	WebSite: www.hach.com	Remittance
P.O. Box 389		2207 Collections Center Dr
5600 Lindbergh Drive		Chicago, IL 60693
Loveland, CO 80539-0389		
		Wire Transfers
Purchase Orders		Bank of America
		231 S. LaSalle St.
		Chicago, IL 60604
		Account: 8765602385

					for on-site repairs, 4 on-site	
					calibrations per year, factory	
					recommended maintenance	
					(including required parts), unlimited	
					technical support calls, and free	
					firmware updates. On-site	
					response for "down" instrument	
					repairs is typically 3 business days.	
					Standard business hours are	
					8am-5pm M-F local time, excluding	
					holidays. Please see service terms	
					and conditions for additional details	
					on our service plans, and to ensure	
					you have an opportunity to review	
					our environmental and safety	
					requirements. Cleaning Module	
					Accessory is not covered under this	
					offering.	
	7.1				99MISC S INSTR	
	7.2				99MISC S INSTR	
	7.3				99MISC S INSTR	
	7.4				99MISC S INSTR	
	7.5				99MISC S INSTR	
	7.6				99MISC S INSTR	
	7.7				99MISC S INSTR	
	7.8				99MISC S INSTR	
	7.9				99MISC S INSTR	
	7.10				99MISC S INSTR	
	7.11				99MISC S INSTR	
	7.12				99MISC S INSTR	
	7.13				99MISC S INSTR	
8	HACH PM 4 VI	SIT	19-SEP-17	18-SEP-18	4 ON SITE VISITS	\$0.00
	8.1	FIELD CONTRACT			Field Service Contract site visit;	
		SITE			HACH49484	

 Sub Total :
 \$25,312.50

 Tax:
 \$0.00

 Total :
 \$25,312.50

Routing (ABA): 026009593

Partnership Notes:

CONFIRMATION OF TYPE OF PAYMENT IS DUE AT THE TIME OF PARTNERSHIP ACTIVATION.

Please keep in mind that if you allow the service coverage to lapse, then an evaluation may be required on your instrument(s). Any repairs required, above a preventative maintenance, must be taken care of as a separate billable charge.

To avoid being billed at the time and material rates, which may include parts, labor, and travel, and to ensure your visits remain on schedule, it would be best to complete your renewal at least 30 days before expiry.

Pre-existing repair conditions are not covered under our pm / repair service plans. New instruments not serviced by Hach in the past 30 days will need an evaluation to determine they are functioning properly. Any repairs required will be at an additional cost to the service



HACH SERVICE PARTNERSHIP
OUOTATION

Headquarters P.O. Box 389 5600 Lindbergh Drive Loveland, CO 80539-0389

Purchase Orders

WebSite: www.hach.com

Partnership Number:

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Remittance

HACH49484

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2207 Collections Center Dr Chicago, IL 60693

Wire Transfers Bank of America 231 S. LaSalle St. Chicago, IL 60604 Account: 8765602385 Routing (ABA): 026009593

plan and your Hach service technician will discuss those with you prior to performing any repairs.

For immediate assistance, contact our exclusive partnership technical support group at 1-866-902-HACH(4224). Please reference your partnership agreement number when calling.

Field (FSP and SSP) instruments:

To schedule onsite visits, please contact our exclusive partnership technical support group at 1-866-902-HACH(4224). Please reference your partnership agreement number when calling.

To schedule your PM services, please email our Dispatch team at: dispatch@hach.com. You will be contacted within 24 hours, during normal business hours.

Bench (BSP) instruments:

To schedule bench service, call 800-227-4224 x 6180 or e-mail services@hach.com. Be sure to reference the HACH partnership number and let them know if you need a loaner instrument. Once you have the loaner, you can then send in your instrument for services.

Bench Service Partnership Plus (BSPPLUS) instruments:

All repairs must be completed at the bench due to instrument design limitations. Includes one on-site visit per year which can be used for either Start-up OR PM/Validation. Reference the instrument Scope of Work for more information. To schedule bench repair, call 800-227-4224 x 6180 or e-mail services@hach.com. Loaners are available for some instruments. Please allow at least four weeks advance notice for loaner availability.

Thank you - we value your continued business!

Leslie Finch | Service Contract Renewals P 800.227.4224 ext 6483 | F 970.619.5823 Hach Company | www.hach.com | lfinch@hach.com

All purchases of Hach Company products and/or services are expressly and without limitation subject to Hach Company's Terms & Conditions of Sale ("Hach TCS"), incorporated herein by reference and published on Hach Company's website at www.hach.com/terms . Hach TCS are incorporated by reference into each of Hach's offers or quotations, order acknowledgments, and invoice and shipping documents. The first of the following acts shall constitute an acceptance of Hach's offer and not a counteroffer and shall create a contract of sale ("Contract") in accordance with the Hach TCS, subject to Hach's final credit approval: (i) Buyer's issuance of a purchase order document against Hach's offer or quotation; (ii) Hach's acknowledgement of Buyer's order; or (iii) commencement of any performance by Hach in response to Buyer's order. Provisions contained in Buyer's purchase documents that materially alter, add to or subtract from the provisions of these Terms and Conditions of Sale shall be null and void and not considered part of the Contract

Customer Name	:	CITY OF LOUISVILLE
Customer P.O. Number	:	
Customer Reference Number	:	



HACH SERVICE PARTNERSHIP **QUOTATION**

Headquarters P.O. Box 389 5600 Lindbergh Drive Loveland, CO 80539-0389 WebSite: www.hach.com

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Purchase Orders

This document sets forth the Terms & Conditions of Sale for goods manufactured and/or supplied, and services provided, by Hach Company of Loveland, Colorado ("Hach") and sold to the original purchaser thereof ("Buyer"). Unless otherwise specifically stated herein, the term "Hach" includes only Hach Company and none of its affiliates. Unless otherwise specifically stated in a previously-executed written purchase agreement signed by authorized representatives of Hach and Buyer, these Terms & Conditions of Sale establish the rights, obligations and remedies of Hach and Buyer which apply to this offer and any resulting order or contract for the sale of Hach's goods and/or services ("Products").

1. APPLICABLE TERMS & CONDITIONS:

These Terms & Conditions of Sale are contained directly and/or by reference in Hach's offer, order acknowledgment, and invoice documents. The first of the following acts constitutes an acceptance of Hach's offer and not a counteroffer and creates a contract of sale ("Contract") in accordance with these Terms & Conditions: (i) Buyer's issuance of a purchase order document against Hach's offer; (ii) acknowledgement of Buyer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Buyer's order. Provisions contained in Buyer's purchase documents (including electronic commerce interfaces) that materially alter, add to or subtract from the provisions of these Terms & Conditions of Sale are not a part of the Contract.

2. CANCELLATION:

Experience cancel goods orders subject to fair charges for Hach's expenses including handling, inspection, restocking, freight and invoicing charges as applicable, provided that Buyer returns such goods to Hach at Buyer's expense within 30 days of delivery and in the same condition as received. Buyer may cancel service orders on ninety (90) day's prior written notice and refunds will be prorated based on the duration of the service plan. Inspections and reinstatement fees may apply upon cancellation or expiration of service programs. Seller may cancel all or part of any order prior to delivery without liability if the order includes any Products that Seller determines may not comply with export, safety, local certification, or other applicable compliance requirements.

Delivery will be accomplished FCA Hach's facility located in Ames, lowa or Loveland, Colorado, United States (Incoterms 2010). For orders having a final destination within the U.S., legal title and risk of loss or damage pass to Buyer upon transfer to the first carrier. For orders having a final destination outside the U.S., legal title and risk of loss or damage pass to Buyer when the Products enter international waters or airspace or cross an international frontier. Hach will use commercially reasonable efforts to deliver the Products ordered herein within the time specified on the face of this Contract or, if no time is specified, within Hach's normal lead-time necessary for Hach to deliver the Products sold hereunder. Upon prior agreement with Buyer and for an additional charge, Hach will deliver the Products on an expedited basis. Standard service delivery hours are 8 am - 5 pm Monday through Friday, excluding holidays.

4. INSPECTION:

Buyer will promptly inspect and accept any Products delivered pursuant to this Contract after receipt of such Products. In the event the Products do not conform to any applicable specifications, Buyer will promptly notify Hach of such nonconformance in writing. Hach will have a reasonable opportunity to repair or replace the nonconforming product at its option. Buyer will be deemed to have accepted any Products delivered hereunder and to have waived any such nonconformance in the event such a written notification is not received by Hach within thirty (30) days of delivery.

5. PRICES & ORDER SIZES:

All prices are in U.S. dollars and are based on delivery as stated above. Prices do not include any charges for services such as insurance; brokerage fees; sales, use, inventory or excise taxes; import or export duties; special financing fees; VAT, income or royalty taxes imposed outside the U.S.; consular fees; special permits or licenses; or other charges imposed upon the production, sale, distribution, or delivery of Products. Buyer will either pay any and all such charges or provide Hach with acceptable exemption certificates, which obligation survives performance under this Contract. Hach reserves the right to establish minimum order sizes and will advise Buyer accordingly.

PAYMENTS:

All payments must be made in U.S. dollars. For Internet orders, the purchase price is due at the time and manner set forth at www.hach.com. Invoices for all other orders are due and payable NET 30 DAYS from date of the invoice without regard to delays for inspection or transportation, with payments to be made by check to Hach at the above address or by wire transfer to the account stated on the front of Hach's invoice, or for customers with no established credit, Hach may require cash or credit card payment in advance of delivery. In the event payments are not made or not made in a timely manner, Hach may, in addition to all other remedies provided at law, either: (a) declare Buyer's performance in breach and may require cash or credit card payment in advance or delivery. In the event payments are not made or not made in a timely manner, Hach may, in addition to all other remedies provided at law, either letter business even after the delinquency is cured. (d) charge interest on the delinquency at a rate of 1-1/2% per month or the maximum rate permitted by law, if lower, for each month or part thereof of delinquency in payment plus applicable storage charges and/or inventory carrying charges; (e) repossess the Products for which payment has not been made; (f) recover all costs of collection including reasonable attorney's fees; or (g) combine any of the above rights and remedies as is practicable and permitted by law. Buyer is prohibited from setting off any and all monies owed under this from any other sums, whether liquidated or not, that are or may be due Buyer, which arise out of a different transaction with Hach or any of its affliates. Should Buyer's financial responsibility become unsatisfactory to Hach in its reasonable discretion, Hach may require cash payment or other security. If Buyer fails to meet these requirements, Hach may treat such failure as reasonable grounds for repudiation of this Contract, in which case reasonable cancellation charges shall be due Hach. Buyer grants Hach a security interest in the Products to secure payment in full, which payment releases the security interest but only if such payments could not be considered an avoidable transfer under the U.S. Bankruptcy Code or other applicable laws. Buyer's insolvency, bankruptcy, assignment for the benefit of creditors, or issolution or termination of the existence of Buyer, constitutes a default under this Contract and affords Hach all the remedies of a secured party under the U.C.C., as well as the remedies stated above for late payment or non-payment.

7. LIMITED WARRANTY:

Hach warrants that Products sold hereunder will be free from defects in material and workmanship and will, when used in accordance with the manufacturer's operating and maintenance instructions, conform to any express written warranty pertaining to the specific goods purchased, which for most Hach instruments is for a period of twelve (12) months from delivery. Hach warrants that services furnished hereunder will be free from defects in workmanship for a period of interly (90) days from the completion of the services. Parts provided by Hach in the performance of services may be new or purching thrushing the parts. Any non-functioning parts that are repaired by Hach in the performance of services may be new returned from the property of Hach. No warranties are extended to consumable items such as, without limitation, reagents, batteries, and light bulbs. All other guarantees, warranties, conditions and representations, either express or implied, whether arising under any statute, law, commercial usage or otherwise, including implied warranties of merchantability and fitness for a particular purpose, are hereby excluded. The sole ermedy for Products not meeting this Limited Warranty is replacement, credit or refund of the purchase price. This remedy will not be deemed to have failed of its essential purpose so long as Hach is willing to provide such replacement, credit or refund.

8. INDEMNIFICATION:

Indemnification applies to a party and to such party's successors-in-interest, assignees, affiliates, directors, officers, and employees ("Indemnified Parties"). Hach is responsible for and will defend, indemnify and hold harmless the Buyer Indemnified Parties against all losses, claims, expenses or damages which may result from accident, injury, damage, or death due to Hach's breach of the Limited Warranty. This indemnification is provided on the condition that the Buyer is likewise responsible for and will defend, indemnify and hold harmless the Hach Indemnified Parties against all losses, claims, expenses or damages which may result from accident, injury, damage, or death due to the negligence or misuse or

9. PAIENT PROTECTION:
Subject to all limitations of liability provided herein, Hach will, with respect to any Products of Hach's design or manufacture, indemnify Buyer from any and all damages and costs as finally determined by a court of competent jurisdiction in any suit for infringement of any U.S. patent (or European patent for Products that Hach sells to Buyer for end use in a member state of the E.U.) that has issued as of the delivery date, solely by reason of the sale or normal use of any Products sold to Buyer hereunder and from reasonable expenses incurred by Buyer in defense of such suit if Hach does not undertake the defense thereof, provided that Buyer promptly notifies Hach of such suit and offers Hach either (i) full and exclusive control of the defense of such suit when Products of Hach only are involved, or (ii) the right to participate in the defense of such suit when products other than those of Hach are also involved. Hach's warranty as to use patents only applicate on infringement right of the inherent operation of the Products are originated, Hach will, at its own expense and at its option, either procure for Buyer the right to continue using such Products or replace them with non-infringing products, or modify them so they become non-infringing, or remove the Products and refund the purchase price (prorated for depreciation) and the transportation costs thereof. The foregoing states the entire liability of Hach for patent infringement related to (x) any goods manufactured to the Buyer's design, (y) services provided in accordance with the Buyer's instructions, or (2) Hach's Products when used in combination with any other devices, parts or software not provided by Hach hereunder.

10. TRADEMARKS AND OTHER LABELS:

Buyer agrees not to remove or alter any indicia of manufacturing origin or patent numbers contained on or within the Products, including without limitation the serial numbers or trademarks on nameplates or cast, molded or

11. SOFTWARE:.

All licenses to Hach's separately-provided software products are subject to the separate software license agreement(s) accompanying the software media. In the absence of such terms and for all other software, Hach grants Buyer only a personal, non-exclusive license to access and use the software provided by Hach with Products purchased hereunder solely as necessary for Buyer to enjoy the benefit of the Products. A portion of the software may contain or consist of open source software, which Buyer may use under the terms and conditions of the specific license under which the open source software is distributed. Buyer agrees that it will be bound by any and all such license agreements. Title to software remains with the applicable



HACH SERVICE PARTNERSHIP
OUOTATION

Headquarters P.O. Box 389 5600 Lindbergh Drive Loveland, CO 80539-0389

Purchase Orders

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Remittance

2207 Collections Center Dr Chicago, IL 60693

Wire Transfers Bank of America 231 S. LaSalle St. Chicago, IL 60604

Account: 8765602385 Routing (ABA): 026009593

licensor(s)

12. PROPRIETARY INFORMATION: PRIVACY:

12. PROPRIET ARY INFORMATION; PRIVACY:

"Proprietarly Information" means any information, technical data or know-how in whatever form, whether documented, contained in machine readable or physical components, mask works or artwork, or otherwise, which Hach considers proprietary, including but not limited to service and maintenance manuals. Buyer and its customers, employees and agents will keep confidential all such Proprietary Information obtained directly or indirectly from Hach and will not transfer or disclose it without Hach's prior written consent, or use it for the manufacture, procurement, servicing or calibration of Products or any similar products, or cause such products to be manufactured, serviced or calibrated by or procured from any other source, or reproduce or otherwise appropriate it. All such Proprietary Information remains Hach's property. No right or license is granted to Buyer or its customers, employees or agents, expressly or by implication, with respect to the Proprietary Information or any patent right or other proprietary right of Hach, except for the limited use licenses implied by law. Hach will manage Customer's information and personal data in accordance with its Privacy Policy, located at http://www.hach.com/privacypolicy.

13. CHANGES AND ADDITIONAL CHARGES:

Hach reserves the right to make design changes or improvements to any products of the same general class as Products being delivered hereunder without liability or obligation to incorporate such changes or improvements to Products ordered by Buyer unless agreed upon in writing before the Products' delivery date. Services which must be performed as a result of any of the following conditions are subject to additional charges for labor, travel and parts: (a) equipment alterations not authorized in writing by Hach; (b) damage resulting from improper use or handling, accident, neglect, power surge, or operation in an environment or manner in which the instrument is not designed to operate or is not in accordance with Hach's operating manuals; (c) the use of parts or accessories not provided by Hach; (d) damage resulting from acts of war, terrorism or nature; (e) services outside standard business hours; (f) site prework not complete per proposal; or (g) any repairs required to ensure equipment meets manufacturer's specifications upon activation of a service agreement.

14. SITE ACCESS / PREPARATION / WORKER SAFETY / ENVIRONMENTAL COMPLIANCE:

14. 3TH ACCESS / FREFARION/ WORKER SAFETY ENVIRONMENTAL COMPLIANCE:
In connection with services provided by Hach, Buyer agrees to permit prompt access to equipment. Buyer assumes full responsibility to back-up or otherwise protect its data against loss, damage or destruction before services are performed. Buyer is the operator and in full control of its premises, including those areas where Hach employees or contractors are performing service, repair and maintenance activities. Buyer will ensure that all necessary measures are taken for safety and security of working conditions, sites and installations during the performance of services. Buyer is the generator of any resulting wastes, including without limitation hazardous wastes. Buyer is solely responsible to arrange for the disposal of any wastes at its own expense. Buyer will, at its own expense, provide Hach employees and contractors working on Buyer's premises with all information and training required under applicable safety compliance regulations and Buyer's policies. If the instrument to be serviced is in a Confined Space, as that term is defined under OSHA regulations, Buyer is solely responsible to make it available to be serviced in an unconfined space. Hach service technicians will not work in Confined Spaces. In the event that a Buyer end in a program progr

15. LIMITATIONS ON USE:

Buyer will not use any Products for any purpose other than those identified in Hach's catalogs and literature as intended uses. Unless Hach has advised the Buyer in writing, in no event will Buyer use any Products in drugs, food additives, food or cosmetics, or medical applications for humans or animals. In no event will be used to any application any Product that requires FDA 510(k) clearance unless and only to the extent the Product has such clearance. Any warranty granted by Hach is void if any goods covered by such warranty are used for any purpose on the permitted hereunder.

16. EXPORT AND IMPORT LICENSES AND COMPLIANCE WITH LAWS:

16. EXPORT AND IMPORT LICENSES AND COMPLIANCE WITH LAWS:
Unless otherwise specified in this Contract, Buyer is responsible for obtaining any required export or import licenses. Hach represents that all Products delivered hereunder will be produced and supplied in compliance with all applicable laws and regulations. Buyer will comply with all laws and regulations applicable to the installation or use of all Products, including applicable import and export control laws and regulations of the U.S., E.U. and any other country having proper jurisdiction, and will obtain all necessary export licenses in connection with any subsequent export, re-export, transfer and use of all Products and technology delivered hereunder. Buyer will not sell, transfer, export or re-export any Hach Products or technology for use in activities which involve the design, development, production, use or stockpiling of nuclear, chemical or biological weapons or missiles, nor use Hach Products or technology in any facility which engages in activities relating to such weapons. Buyer will comply with all local, national, and other laws of all jurisdictions globally relating to anti-corruption, bribery, extortion, kickbacks, or similar matters which are applicable to Buyer's business activities in connection with this Contract, including but not limited to the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"). Buyer agreed with no payment of money or provision of anything of value will be offered, promised, paid or transferred, directly or indirectly, by any person or entity, to any government official, government employee, or employee of any company owned in part by a government, political party official, or candidate for any government official party official p

17. FORCE MAJEURE:

HACh is excused from performance of its obligations under this Contract to the extent caused by acts or omissions that are beyond its control of, including but not limited to Government embargoes, blockages, seizures or freeze of assets, delays or refusals to grant an export or import license or the suspension or revocation thereof, or any other acts of any Government; fires, floods, severe weather conditions, or any other acts of God; quarantines; labor strikes or lockouts; riots; strife; insurrections; civil disobedience or acts of criminals or terrorists; war; material shortages or delays in deliveries to Hach by third parties. In the event of the existence of any force majeure circumstances, the period of time for delivery, payment terms and payments under any letters of credit will be extended for a period of time equal to the period of delay. If the force majeure circumstances extend for six months, Hach may, at its option, terminate this Contract without penalty and without being deemed in default or in breach thereof.

18. NON ASSIGNMENT AND WAIVER:

Buyer will not transfer or assign this Contract or any rights or interests hereunder without Hach's prior written consent. Failure of either party to insist upon strict performance of any provision of this Contract, or to exercise any right or privilege contained herein, or the waiver of any breach of the terms or conditions of this Contract will not be construed as thereafter waiving any such terms, conditions, rights, or privileges, and the same will continue and remain in force and effect as if no

None of the Hach Indemnified Parties will be liable to Buver under any circumstances for any special, treble, incidental or consequential damages, including without limitation, damage to or loss of property other than for the Products purchased hereunder; damages incurred in installation, repair or replacement; lost profits, revenue or opportunity; loss of use; losses resulting from or related to downtime of the products or inaccurate measurements or reporting; the cost of substitute products; or claims of Buyer's customers for such damages, howsoever caused, and whether based on warranty, contract, and/or tort (including negligence, strict liability or otherwise). The total liability of the Hach Indemnified Parties arising out of the performance or nonperformance hereunder or Hach's obligations in connection with the design, manufacture, sale, delivery, and/or use of Products will in no circumstance exceed in the aggregate a sum equal to twice the amount actually paid to Hach for Products

20. APPLICABLE LAW AND DISPUTE RESOLUTION:
The construction, interpretation and performance hereof and all transactions hereunder shall be governed by the laws of the State of Colorado, without regard to its principles or laws regarding conflicts of laws. If any provision of this Contract violates any Federal, State or local statutes or regulations of any countries having jurisdiction of this transaction, or is illegal for any reason, said provision shall be self-deleting without affecting the validity of the remaining provisions. Unless otherwise specifically agreed upon in writing between Hach and Buyer, any dispute relating to this Contract which is not resolved by the parties shall be adjudicated in order of preference by a court of competent jurisdiction (i) in the State of Colorado, U.S.A. if Buyer has minimum contacts with Colorado and the U.S., (ii) elsewhere in the U.S. if Buyer has minimum contacts with the U.S. but not Colorado, or (iii) in a neutral location if Buyer does not have minimum contacts with the United States.

21. ENTIRE AGREEMENT & MODIFICATION:

These Terms & Conditions of Sale constitute the entire agreement between the parties and supersede any prior agreements or representations, whether oral or written. No change to or modification of these Terms & Conditions shall be binding upon Hach unless in a written instrument specifically referencing that it is amending these Terms & Conditions of Sale and signed by an authorized representative of Hach. Hach rejects any additional or inconsistent Terms & Conditions of Sale offered by Buyer at any time, whether or not such terms or conditions materially alter the Terms & Conditions herein and irrespective of Hach's acceptance of Buyer's order for the described goods and services.



Quote Number: 100243702v4Use quote number at time of order to ensure that you receive prices quoted

Proposal

Hach PO Box 608

Loveland, CO 80539-0608
Phone: (800) 227-4224
Email: quotes@hach.com
Website: www.hach.com

Quote Expiration: 05-Jun-2017

CITY OF LOUISVILLE 1955 N WASHINGTON ST LOUISVILLE, CO 80027

Quote Date: 06-Apr-2017

Name: Terrell Phillips Phone: 303-335-4783 Fax: (303) 666-4193

Email: tphillips@louisvilleco.gov

Customer Account Number: 833446

Sales Contact: Shane Mueller Email: smueller@hach.com Phone: 970-215-3671

PRICING QUOTATION

Line	Part Number	Description	Qty	Unit Price	Extended Price
1	WM-MU-CONUSR	WIMS CONCURRENT USER LICENSE	3	984.00	2,952.00
2	WM-FACILITY	WIMS Additional Facilities	1	1,315.00	1,315.00
3	WM-SCADA-INT	SCADA/Historian Interface Module connects to a single SCADA source	1	2,842.00	2,842.00
4	WM-SW	WIMS base software for support contracts.	1	0.00	0.00
5	DMWIMS-SPT-BAS	WIMS yearly support contract - Basic support is 18% of overall software value	1	0.00	0.00
6	DM_WIMS-SERVICES	WIMS Services	70	182.00	12,740.00
7	NOSHIPOPENPROJ	KEEPS ORDER OPEN FOR WIMS PROJECT DO NOT SHIP ITEM	1	0.00	0.00
8	WM-MISC	Update CD, lost CDs, Additional media	1	1,750.00	1,750.00
				Grand Total	\$ 21,599.00

NOTES

Hach WIMS Software:

3 Additional Hach WIMS™ concurrent users, 1 facility database in conjunction with City of Louisville DW WIMS License (quote 100229351)

Standard SCADA Interface for Hach WIMS™ - Iconics:

Please go to www.hach.com/im, under "Helpful Links" click on Standard SCADA and LIMS Interfaces to review the list of Standard SCADA interfaces currently available. Please verify your system is listed and click on the Documentation link to review the technical details of the interface. Contact IIM Support at 800-667-0067 if you need assistance.

NOTE: If your SCADA system is not on the Hach list of standard interfaces, a custom interface will be required and additional costs will be incurred. Completion of custom interfaces may extend beyond the completion of other aspects of the project but should not delay the use of most WIMS functionality. You should discuss impact to the project schedule with your HACH RSM and Project Manager.

Implementation Services:

Typically includes (your Project Manager will finalize the scope of work based on your needs):

- Project Administration
- Consultation to gather information and determine specific needs to create a project plan.
- Remote Basic Install Assistance
- OP10 Conversion Services
 - Setup assistance to convert Pervasive to SQL Database
 - Conversion of 4 existing OP10 Databases
 - Conversion of up to 200 OP10 Calculations (in each converted OP10 database)
 - Data Migration
- The Hach Project Manager will complete set up of the following regulatory reports and forms:

CO0023078-WWTP DMR Template for Monthly

CO0023078-WWTP DMR Template for Quarterly

Lab Bench Sheet-Keeper, Feb.2017

- 1 standard format monthly KPI report with up to 10 user defined KPIs (key performance indicators)
- Predefined dashboard with 10 user defined KPI's and KPI graph set
- 1 standard format yearly summary KPI report with up to 10 user defined KPIs
- Data Entry Form development including 1 Custom Data Entry Form and standard Monthly Data Entry Forms for all parameters
- Additional scope/work, billed at our standard labor rate, can be requested and will require a change order.
- Implementation assumes internet access is available at installation site.
- Data Migration services are NOT included. Historical data may be imported from SCADA/LIMS systems with Purchased Interfaces.

Additional Onsite Training and Services day

Additional Training day will be in conjunction with DW facility (quote 100229351)

TERMS OF SALE

Freight: Ground Prepay and Add FCA: Hach's facility

All purchases of Hach Company products and/or services are expressly and without limitation subject to Hach Company's Terms & Conditions of Sale ("Hach TCS"), incorporated herein by reference and published on Hach Company's website at www.hach.com/terms. Hach TCS are incorporated by reference into each of Hach's offers or quotations, order acknowledgments, and invoice and shipping documents. The first of the following acts shall constitute an acceptance of Hach's offer and not a counter offer and shall create a contract of sale ("Contract") in accordance with the Hach TCS, subject to Hach's final credit approval: (i) Buyer's issuance of a purchase order document against Hach's offer or quotation; (ii) Hach's acknowledgement of Buyer's order; or (iii) commencement of any performance by Hach in response to Buyer's order. Provisions contained in Buyer's purchase documents that materially alter, add to or subtract from the provisions of these Terms and Conditions of Sale shall be null and void and not considered part of the Contract.

Due to International regulations, a U.S. Department of Commerce Export License may be required. Hach reserves the right to approve specific shipping agents. Wooden boxes suitable for ocean shipment are extra. Specify final destination to ensure proper documentation and packing suitable for International transport. In addition, Hach may require: 1). A statement of intended end-use; 2). Certification that the intended end-use does not relate to proliferation of weapons of mass destruction (prohibited nuclear end use, chemical / biological weapons, missile technology); and 3). Certification that the goods will not be diverted contrary to U.S. law.

ORDER TERMS:

Terms are Subject to Credit Review

Please reference the quotation number on your purchase order.

Sales tax is not included. Applicable sales tax will be added to the invoice based on the U.S. destination, if applicable provide a resale/exemption certificate.

Shipments will be prepaid and added to invoices unless otherwise specified.

Equipment quoted operates with standard U.S. supply voltage. Hach standard terms and conditions apply to all sales.

Additional terms and conditions apply to orders for service partnerships.

Freight Charge Schedule and Collect Handling Fees attached.

Refrigerated and all weather Samplers do not qualify for simplified freight charges, and are considered heavy freight.

Dissolved Oxygen Sensors can be damaged if exposed to temps below freezing, causing sensor failure. Must be shipped over night or 2nd day air during the cold weather months. Standard lead time is 30 days

Sales Contact: Prepared By:

Name: Shane Mueller Name: Carol Burrill

Title: Regional Sales Manager Title: Field Sales Support Specialist II

 Phone:
 970-215-3671
 Phone:
 970-669-3050 x6246

 Email:
 smueller@hach.com
 Email:
 cburrill@hach.com

HACH COMPANY'S LICENSE AND TERMS AND CONDITIONS OF SERVICES FOR HACH'S WATER INFORMATION MANAGEMENT SOLUTION™ (WIMS™)

ACCEPTANCE: These Terms and Conditions are contained in Hach Company's (Hach) offer, order acknowledgment, and invoice documents. The first of the following acts shall constitute an acceptance of Hach's offer and not a counteroffer and shall create a binding license and service agreement ("Agreement") in accordance with these Terms and Conditions, subject to final credit approval by Hach: (i) Customer's issuance of a purchase order document against Hach's offer; (ii) acknowledgment of Customer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Customer's order. Hach's commencement of work or signature on any purchase order or other form or document submitted by Customer shall constitute acknowledgment of receipt of Customer's order only, and shall not constitute Hach's assent to any terms and conditions submitted by Customer. Provisions contained in Customer's purchase documents that materially alter, add to or subtract from the provisions of these Terms and Conditions shall not be a part of the Agreement. Any objection to these Terms and Conditions must (1) be in writing, (2) list specifically each term or condition with which you disagree, and (3) indicate why you disagree with the term or condition. Customer must notify Hach in writing of objections before Customer's submission of a purchase order to Hach or Hach's commencement of work, whichever occurs first, so that Hach may have a reasonable time to address any such objections. These Terms and Conditions shall be deemed accepted in their entirety by issuance of Customer's purchase order.

COMPLETE AGREEMENT: All proposals, negotiations, representations, and quotations, if any, regarding this transaction and made prior to the date of this document are merged herein.

TERM: SUBSCRIPTION SERVICE ONLY:

INITIAL TERM: Two (2) years

RENEWAL TERM(S): If Customer wishes to terminate the Subscription Services at the end of the Initial Term or any subsequent Renewal Terms, the Customer should send Hach notice of intent to terminate either by (a) faxing the notice to 970-461-3919 or (b) by emailing the notice from the email contact account to support@hach.com. If Customer submits the notice of termination by email, Hach shall confirm the termination by sending a second e-mail or fax to the contact email address or fax number on file. If Customer fails to notify Hach of its intent not to renew, the Subscription Service will be deemed renewed by Customer under the terms of this Agreement on a month-to-month basis at Hach's then-current rates and charges for monthly Subscription Service.

PRICES: Hach's prices in effect at the time of delivery shall apply and any different pricing indicated from any other source shall be adjusted to Hach's current pricing, except for the price of Total Startup (one-time) Charges contained in Hach's quotation, which is firm for 60 days from the date of the quotation. If transportation charges from point of origin of the shipment to a designated point are included in these prices: (a) any changes in such transportation charges shall be the Customer's responsibility, and (b) except as otherwise stated in Hach's quotation, Hach shall not be responsible for switching, spotting, handling, storage, demurrage or any other transportation or accessorial service, nor for any charges incurred therefor, unless such charges are included in the applicable freight rate from shipping point to the designated point.

PAYMENT AND CREDIT:

SUBSCRIPTION PACKAGE:

PAYMENT AND PRICING: Customer shall pay for all monthly Subscription Service net 30 days from invoice. Pricing is based on a 2-year Agreement. An early termination fee set forth in Hach's offer, will apply if the Agreement is terminated before 2 years. Cancellations become effective on the last day of the month in which notice is given.

SETUP SERVICE: Customer shall be given the choice of paying for Setup Service rendered either net 30 or by installments payable in 24 consecutive installments plus 18% simple interest. If Customer terminates the Agreement without cause before the end of the Initial Term, Customer agrees to pay Hach the remainder of the unpaid balance for Services plus any outstanding interest.

EFFECT OF TERMINATION: Upon the effective date of termination of this Agreement: (a) Hach will immediately cease providing the Subscription Service(s); and (b) any and all payment obligations of Customer under this Agreement for Service(s) provided through the date of termination will immediately become due

OTHER PACKAGES: Payment is due thirty (30) days from the date of invoice. Hach reserves the right to deny credit to Customer and to determine the suitability of the method of payment where payment is other than cash, certified check or money order. Hach reserves the right to revoke credit previously extended to Customer because of Customer's failure to pay for services when due or of any other reason deemed good and sufficient by Hach, and in such event all subsequent services shall be paid for in advance or on delivery. Past due balances shall be subject to interest charges at the maximum rate permitted by law. Customer shall pay all Fees specified in US dollars.

TAXES: Any taxes which Hach may be required to pay or collect, under any existing or future law, upon or with respect to the license, sale, purchase, delivery, storage, processing, use or consumption of any of the material covered hereby, including taxes upon or measured by the receipts from the sale thereof, shall be paid for by Customer. Hach will collect and pay taxes when required to do so unless Customer furnishes a valid resale/exemption certificate to Hach, no later than the time of payment, relieving Hach of the requirement to collect and pay such taxes. If the certificate furnished to Hach is held invalid Customer agrees to pay the taxes (plus interest) not collected as a result of relying on Customer's invalid certificate.

CANCELLATION: Customer may cancel orders within 30 days of purchase subject to fair charges for expenses incurred, handling, inspection, restocking, freight and invoicing charges as applicable. Cancelled orders must be returned to Hach within 30 days at Customer's expense.

DELAY: Hach shall be excused for any delay in performance or delivery due to acts of God, war, riot, embargoes, acts of civil or military authorities, fire, floods, accidents, quarantine restrictions, factory conditions, strikes, labor disputes, delays in transportation, shortage of transport vehicles, labor or materials, or any circumstance or cause beyond the control of Hach in the reasonable conduct of its business. Hach further reserves the right, in its full discretion, to allocate inventories and current production and to substitute suitable materials when, in its opinion, circumstances warrant such allocation or substitution.

INSPECTION: Customer shall promptly inspect all software and the results of services. All claims for alleged defects in software or services are waived unless Customer notifies Hach of the claim within 30 days after receipt of software or performance of services. No claim shall be effective if made after the software or services have been altered or used. Customer shall afford Hach prompt and reasonable opportunity to inspect all software and services to which any claim is made. No returns shall be made without Hach's express consent, a return authorization and return instructions.

SOFTWARE LICENSE, USE AND RESTRICTIONS:

LICENSE. Software is subject to the separate software license agreement(s) accompanying the software media, along with any product guides, operating manuals, or other documentation presented to Customer during the installation or use of the Software. In the absence of such terms, Hach hereby grants Customer a personal, non-exclusive license to access and use the software provided by Hach. Software provided or otherwise made available to Customer by Hach may be used only during the term of the subscription and/or services, as set forth in the duly authorized documentation setting forth the term for each, and as may be renewed in accordance with this Agreement.

RESTRICTIONS. Customer may not copy, modify, or create a derivative work, collective work, or compilation of the software, and many not reverse engineer, decompile or otherwise attempt to extract the code of the software or any part thereof. Customer may not license, sub-license, sell, assign, sublicense, or otherwise transfer or encumber the software; may not use the software in a managed-services arrangement; and may not use the software in excess of the authorized number of licensed facilities, servers and/or seats or other criteria specified in the duly authorized documentation specifying same. Customer is further prohibited from (1) attempting to use or gain unauthorized access to Hach or to any third party's networks or equipment; (2) permitting other individuals or entities to use the software or copy the software or services; (3) attempting to probe, scan, or test the vulnerability of software or a system, account, or network of Hach or any of its customers, suppliers or affiliates; (4) interfering or attempting to interfere with service to any user, host, or network; (5) engaging in fraudulent activity of any nature; (6) transmitting unsolicited bulk or commercial messages; (7) restricting, inhibiting, or otherwise interfering with the ability of any other person, regardless of intent, purpose, or knowledge, to use or enjoy the software (except for tools with safety and security functions); or (8) restricting, inhibiting, interfering with, or otherwise disrupting or causing a performance degradation to any Hach or Hach affiliate or supplier facilities used to deliver the services.

AUDIT. Solely for the purpose of verifying Customer's compliance with the terms of this Agreement, Customer hereby grants Hach, or an agent designated by Hach, the right to perform an audit of Customer's use of the software during normal business hours. Customer agrees to cooperate with Hach in such audit and to provide Hach with all records reasonably related to Customer's use of the Software.

OWNERSHIP AND PROPRIETARY RIGHTS: "Information" as used herein means all content and other items included with or as part of the services or software, such as text, graphics, graphs and other representations of data, user interfaces, images, data, photographs, videos, and software. All right, title, and interest in the intellectual property (including all copyrights, patents, trademarks, trade secrets, and trade dress) embodied in any services, software, and/or Information provided hereunder shall belong solely and exclusively to Hach and Customer shall have no rights whatsoever in any of the above, except as expressly granted in this Agreement. The software and Information are protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. Customer may not modify, remove, delete, augment, add to, publish, transmit, adapt, translate, participate in the transfer or sale of, create derivative works from, or in any way exploit any of the software or other Information, in whole or in part. Hach will retain exclusive ownership of all software and Information, and will own all intellectual property rights, title, and interest in any ideas, concepts, know-how, documentation, and techniques associated therewith. Subject to payment in full for the applicable services, Hach grants Customer a non-exclusive, non-transferable, royalty-free right to use the software and other Information solely for Customer's facilities, and solely as necessary for Customer to enjoy the benefit of the services.

INTERRUPTION OF SERVICES: Hach may on occasion need to perform scheduled or unscheduled repairs, maintenance or upgrades in connection with the software installed on its and Customer's computer system(s), which may temporarily degrade the quality of the services or result in a partial or complete outage of the software. Hach provides no assurance that you will receive advance notification of such activities or that the software or services will be uninterrupted or error-free. Unless otherwise agreed to in writing between Hach and Customer, any degradation or interruption in the services or software shall not give rise to any form of damages or to a refund or credit of any fees paid by Customer. CUSTOMER AGREES THAT THE OPERATION AND AVAILABILITY OF THE SYSTEMS USED FOR ACCESSING AND INTERACTING WITH THE SOFTWARE AND ASSOCIATED DATA, INCLUDING COMMUNICATION VIA MEANS SUCH AS THE INTERNET AND THIRD PARTY SERVICE PROVIDERS' COMMUNICATIONS NETWORKS, CAN BE UNPREDICTABLE AND MAY, FROM TIME TO TIME, INTERFERE WITH OR PREVENT ACCESS TO OR USE OR OPERATION OF THE SOFTWARE AND ASSOCIATED DATA. HACH SHALL NOT BE LIABLE FOR ANY SUCH INTERFERENCE WITH OR PREVENTION OF CUSTOMER'S ACCESS TO OR USE OF THE SOFTWARE OR ASSOCIATED DATA.

CUSTOMER DATA: In Hach's performance of services or in connection with Customer's use of the Software, it may be necessary for Hach to obtain, receive, or collect data or information, including system-specific data. In such cases, Customer grants Hach a non-exclusive, worldwide, royalty-free, perpetual, non-revocable license to use, compile, distribute, display, store, process, reproduce, or create derivative works of such data solely to facilitate the performance of services by Hach or Customer's use of the Software. In addition, Customer grants Hach a license to aggregate such data for use in an anonymous manner in support of Hach's marketing and sales activities. Customer also grant Hach the right to copy and maintain such data on Hach's servers (or the servers of its suppliers) during the term of this Agreement. Customer represents and warrants that it has obtained all rights, permissions, and consents necessary to use and transfer such data within and outside of the country in which Customer is located in conjunction with Hach's performance of the services or Customer's use of the software (including providing adequate disclosures and obtaining legally sufficient consent from Customer's employees, agents, and contractors).

CONFIDENTIALITY: In connection with this Agreement, each party may have access to or be exposed to information of the other party that is not generally known to the public, such as information pertaining to software, data, reporting, pricing, and marketing, know-how, and trade secrets, which may be designated as confidential or which, under the circumstances surrounding disclosure, ought to be treated as confidential (collectively, "Confidential Information"). Confidential Information may not be shared with third parties unless such disclosure is to the receiving party's personnel, including employees, affiliates, agents, and subcontractors, on a "need-to-know" basis in connection with this Agreement, so long as such personnel have agreed in writing to treat such Confidential Information under terms at least as restrictive as those herein. Each party agrees to take the necessary precautions to maintain the confidentiality of the other party's Confidential Information by using at least the same degree of care as such party employs with respect to its own Confidential Information of a similar nature, but in no case less than a commercially reasonable standard of care to maintain confidentiality. The foregoing shall not apply to information that the receiving party can show through written records (1) was known by it before its receipt from the disclosing party; (2) is or becomes public knowledge through no fault of the receiving party; or (3) is rightfully received by the receiving party from a third party without a duty of confidentiality. If the receiving party is required by a court or government agency to disclose Confidential Information, the receiving party shall, subject to any applicable lawful restrictions, provide advance notice to the disclosing party before making such a disclosure. The obligations with respect to Confidential Information shall continue for five (5) years from the date of disclosure.

REPRESENTATIONS, WARRANTIES AND DISCLAIMERS:

SERVICES: Hach warrants that the services will be performed in a professional and workmanlike manner and will be of a quality conforming to general standards of care. If Hach breaches this or any other service warranty provided to the Customer, and if the Customer notifies Hach of such breach within 30 days of performance of Service, customer's exclusive remedy and Hach's entire liability for any breach of service warranty shall be re-performance of the specific non-conforming service.

SOFTWARE: Hach warrants that it has the right to grant the licenses to the software licensed under this Agreement, and such software will substantially conform to the functional specifications and current documentation provided by Hach.

WARRANTY DISCLAIMERS: EXCEPT AS EXPRESSLY STATED IN THE PRECEDING SENTENCES, HACH, (INCLUDING ITS AFFILIATES AND EACH OF THEIR RESPECTIVE EMPLOYEES, DIRECTORS, AND OFFICERS), MAKES NO EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE SOFTWARE OR SERVICES, INCLUDING BUT NOT LIMITED TO ANY WARRANTY (1) OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, PERFORMANCE, SUITABILITY, OR NON-INFRINGEMENT; OR (2) REGARDING THE RESULTS TO BE OBTAINED FROM THE SOFTWARE, SERVICES, OR THE RESULTS OF ANY RECOMMENDATION BY HACH. WARRANTIES DO NOT COVER DAMAGE DUE TO EXTERNAL CAUSES, SUCH AS ACCIDENT, ABUSE, MISUSE, PROBLEMS WITH ELECTRICAL POWER, SERVICE NOT PERFORMED OR AUTHORIZED BY HACH (INCLUDING INSTALLATION) OR DE-INSTALLATION), USAGE NOT IN ACCORDANCE WITH PRODUCT OR SOFTWARE INSTRUCTIONS, NORMAL WEAR AND TEAR, OR USE OF PARTS AND COMPONENTS NOT SUPPLIED OR INTENDED FOR USE WITH THE PRODUCTS, SOFTWARE, OR SERVICES. WITH RESPECT TO YOUR USE OF THE SOFTWARE (1) NEITHER HACH NOR ANY OF THE HACH PARTIES MAKES ANY EXPRESS OR IMPLIED WARRANTY THAT SOFTWARE PROVIDED TO YOU IN CONNECTION WITH THIS AGREEMENT IS OR WILL BE SECURE, ACCURATE, COMPLETE, UNINTERRUPTED, WITHOUT ERROR, OR FREE OF VIRUSES, WORMS, OTHER HARMFUL COMPONENTS, OR OTHER PROGRAM LIMITATIONS; OR THAT ANY ERRORS IN THE SOFTWARE WILL BE CORRECTED; AND (2) CUSTOMER ASSUMES THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR, OR CORRECTION OF PROBLEMS CAUSED BY VIRUSES OR OTHER HARMFUL COMPONENTS, UNLESS SUCH ERRORS OR VIRUSES ARE THE DIRECT RESULT OF HACH'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT.

HIGH-RISK DISCLAIMER: THE SOFTWARE AND SERVICES ARE NOT FAULT-TOLERANT AND ARE NOT DESIGNED OR INTENDED FOR USE IN HAZARDOUS ENVIRONMENTS REQUIRING FAIL-SAFE PERFORMANCE, SUCH AS IN THE OPERATION OF NUCLEAR FACILITIES, HOSPITALS, OR ANY OTHER APPLICATION IN WHICH THE FAILURE OF THE SOFTWARE OR SERVICES COULD LEAD DIRECTLY TO DEATH, PERSONAL INJURY, OR SEVERE PHYSICAL OR PROPERTY DAMAGE (COLLECTIVELY, "HIGH-RISK ACTIVITIES"). HACH EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR HIGH-RISK ACTIVITIES.

OPEN SOURCE SOFTWARE. A portion of the software may contain or consist of open source software, which you may use under the terms and conditions of the specific license under which the open source software is distributed. THIS OPEN SOURCE SOFTWARE IS DISTRIBUTED IN THE HOPE THAT IT WILL BE USEFUL, BUT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS, IMPLIED, OR OTHERWISE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY REGARDING TITLE OR AGAINST INFRINGEMENT. IN NO EVENT SHALL HACH, THE COPYRIGHT HOLDERS, OR THE CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTUTUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS OPEN SOURCE SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

LIMITATION ON DAMAGES: IN NO EVENT SHALL HACH, ITS SUPPLIERS, LICENSORS OR SUBCONTRACTORS BE LIABLE TO CUSTOMER OR ANY THIRD PARTY FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, OR DAMAGES FOR LOSS OF PROFITS, REVENUE, CORRUPT DATA OR USE, LOSS OF CUSTOMER DATA, CORRUPT OR UNAVAILABLE CUSTOMER DATA, LOSS OF USE OF CUSTOMER DATA, LOST OPPORTUNITY, TRANSACTION LOSSES, OPPORTUNITY COSTS, INTERRUPTION OF BUSINESS OR COSTS OF PROCURING SUBSTITUTE GOODS OR SERVICES OR FOR INTERRUPTED COMMUNICATIONS ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, THE SERVICES, OR CUSTOMER'S WEB PAGE AND INCURRED BY CUSTOMER OR ANY THIRD PARTY, WHETHER IN AN ACTION IN CONTRACT, WARRANTY, TORT OR STRICT LIABILITY. THE FOREGOING NOTWITHSTANDING, IN NO EVENT SHALL HACH COMPANY'S LIABILITY FOR DAMAGES HEREUNDER TO CUSTOMER EXCEED THE AMOUNT OF FEES ACTUALLY PAID BY CUSTOMER PURSULANT TO THE APPLICABLE AGREEMENT.

SURVIVAL: THE FOREGOING DISCLAIMERS AND LIMITATIONS OF LIABILITY SHALL BE ENFORCEABLE TO THE MAXIMUM EXTENT PERMITTED BY LAW AND SHALL SURVIVE TERMINATION OR EXPIRATION OF THIS AGREEMENT.

CUSTOMER REPRESENTATIONS: Customer for itself and on behalf of its Administrator and each Authorized Customer User represents and warrants to Hach that (a) it owns or has the right to permit Hach to access its Customer's Sites and surrounding areas for service, installation and maintenance; and (b) Customer shall and hereby does defend, indemnify and hold Hach and its affiliates harmless from and against any and all claims, losses, damages, liabilities, obligations, judgments, causes of action, costs, charges and expenses (including without limitation, reasonable attorneys' and consultants' fees and such fees and penalties as any third party licensors may impose) arising out of or in connection with: (i) any breach of this Agreement by Customer and/or its Authorized Customer Users; (ii) any civil and/or criminal suit alleging that Hach had no right or authority to access the Customer's Sites; (iii) any Customer and/or Authorized User negligence, recklessness or willful misconduct; or (iv) any violation of, or non-compliance with laws. Customer's obligations under this Section do not apply to the extent that claims are directly caused by the gross negligence of Hach.

PATENTS: Hach shall defend and indemnify the Customer from and against any legal action, judgment for damages awarded in such action, and/or reasonable attorneys fees and costs incurred on account of the alleged infringement of any United States patent by any services or software supplied by Hach hereunder, unless made in accordance with Customer's specifications or unless the alleged infringement results from Customer's use of the software or services in combination with products, software or services provided by third parties, in which case the Customer shall defend indemnify Hach from and against any legal action, judgment for damages awarded in such action, and/or reasonable attorneys fees and costs incurred on account of the alleged infringement. In order for either party to be entitled to indemnification under this provision, party seeking indemnification must, no later than fifteen (15) business days after its receipt or discovery of a claim, provide written notice to the party from whom indemnity is sought of the bringing of the suit and an opportunity shall be given such party to settle or defend it as that party may see fit and that every reasonable assistance in settling or defending shall be rendered to the indemnifying party by the party seeking indemnification. Neither Hach nor the Customer shall in any event be liable to the other for special, indirect, incidental or consequential damages arising out of or resulting from infringement of patents.

LIMITATIONS ON USAGE: The Customer shall not use any software or services provided hereunder for any purpose other than that identified in Hach's catalogs and literature as the intended use of such goods. Any warranty granted by Hach to the Customer shall be deemed void if any software or services covered by such warranty are used for any purpose not permitted hereunder. In addition, the Customer shall indemnify Hach and hold Hach harmless from and against any and all claims, damages, losses costs, expenses and other liability of whatever nature that Hach suffers or incurs by reason of any such unintended use.

INDEPENDENT RELATIONSHIP: As between themselves, the parties are independent contractors with no authority to contract for or in any way to bind or to commit the other to any agreement of any kind or to assume any liabilities of any nature in the name of or on behalf of the other.

ASSIGNMENT: Neither this Agreement nor any license granted hereunder may be assigned by either party without the prior written consent of the other, which may be withheld for any reason or no reasons, and any such assignment is void ab initio.

NOTICE: Any notice given pursuant to this Agreement must be in writing and will be given by overnight courier service, personal delivery, facsimile or by United States certified mail, return receipt requested, postage prepaid, to the address appearing in Customer's purchase order in the case of notice to Customer, and to the following address in the case of notice to Hach: Hach Company, c/o IIM BU Director with cc to VP/General Counsel, 5600 Lindberg Drive, Loveland, Colorado 80538. Notice will be deemed effective on the date delivered to the addressee as confirmed by the applicable delivery service. Either party may change its address for notice purposes by giving the other party notice of such change in accordance with this Section.

COMPLIANCE WITH LAWS: Hach and Customer agree to comply with all laws applicable to the software and services provided hereunder. Software and technical data supplied by Hach are subject to certain export laws and regulations. Customer agrees to obtain at its own expense any import license, foreign exchange permit, or other permit or approval it may need for the performance of its obligations under this Agreement and to comply at its own expense with all applicable laws, regulations and orders of the government(s) to which its activities are subject. Customer agrees that it will, at all times, be in compliance with the United States export laws and will comply with all applicable restrictions regarding exports, re-exports and transfers, including obtaining any required U.S. or other country licenses, authorizations, or approvals. Customer further represents and warrants to Hach that Customer shall comply with all local, national, and other laws of all jurisdictions globally relating to anti-corruption, bribery, extortion, kickbacks, or similar matters which are applicable to Customer's business activities in connection with this Agreement, and that Customer will take no action that will cause Customer or Hach to violate any such laws. Customer specifically represents and warrants to Hach that Customer is familiar with the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"), and that Customer shall comply with the FCPA and will take no action that will cause Customer or Hach to violate the FCPA. Hach may terminate said Agreement immediately, if it believes, in good faith, that Customer has breached the foregoing compliance-with-law provisions of the Agreement or caused Hach to violate the FCPA or other applicable laws. Hach shall not be liable to Customer for any claim, losses, or damages related to Hach's decision to exercise its rights under this provision.

APPLICABLE LAW AND DISPUTE RESOLUTION: The construction, interpretation and performance hereof and all transactions hereunder shall be governed by the laws of the State of Colorado, without regard to or application of its principles or laws regarding conflicts of laws or the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded. If any provision of this Agreement is in violation of any Federal, State or local statutes or regulations of any countries having jurisdiction of this transaction, or is illegal for any reason, said provision shall be self-deleting without affecting the validity of the remaining provisions. Unless otherwise specifically agreed upon in writing between Customer and Hach, any dispute relating to this Agreement which is not resolved by the parties shall be adjudicated in order of preference (i) by a court of competent jurisdiction in the State of Colorado, U.S.A. if Customer has minimum contacts with Colorado and the United States, (ii) by a court of competent jurisdiction elsewhere in the United States if Customer has minimum contacts with the United States but not Colorado, or (iii) by a court of competent jurisdiction in a neutral location (which may at Hach's discretion exclude Customer's state of residence) if Customer does not have minimum contacts with the United States.

The Sole Authorized Manufacturer and Direct Distributor Letter

2/14/2017

Customer Name: City of Louisville

Customer Address: 1955 N Washington St **Customer City, State, Zip:** Louisville, CO 80027

Customer Account Number: 833446

Item(s): Description(s):

item(s).	Description(s).
LXV442.99.03012	TU5200, Lab Turb with RFID, EPA
LZV946	Sample vials
LZY835	StablCal Calibration Set with RFID
LZY837	StableCal vials 20 NTU
LZY903	Vial Wiper TU5XXX
LZY901	Glass Rod Secondary turb satand <0.1NTU
LZQ067	Sample RFOD Tab. Pk/3, black
LXV445.99.23212	TU5400sc Turb, Flow, Syschk, RFID, EPA
LXV404.99.00552	SC200 Controller, AC-DC, 2 Digital
5440001	CL17 Free Chlorine Analyzer, 0-5 mg/L
LXV510.99.11010	AF7000 SCM, Autoflush, Grt Filter, 110v 60 hz, US cord

This letter is to confirm that Hach Company is the sole authorized manufacturer and direct distributor of the item/items listed above.

Thank you for your interest in Hach Company Products. If we can be of further assistance, please contact us at 1-800-227-4224.

Thank you





Photo 1 – WWTP Paving



Photo 2 – WWTP – Lab Building

Utility Committee Draft - 2018 Utility Financial Plan Update

July 21, 2017

Overview

Financial Plan

▶ Performance Metrics

- Alternatives
 - Just-In-Time
 - Smoothing Recommended by Staff and Utility Committee

Financial Planning Performance Metrics

Debt Service Coverage (DSC):

Ratio of net revenues

(operating revenue less operating expense)

to annual debt service payment

- ► Target DCS above required minimum Values
 - ► Conservative approach to ensure legal DSC minimums are met even if revenue forecasts are not achieved
 - ► Maintain or achieve higher credit ratings

Debt Service Coverage

Required DSC Ratio				
Colorado Water Resources and Power Development Authority	1.10			
2013 Water and Wastewater Enterprise Revenue Bonds	1.15			

Dual Target DSC Ratio				
Fund	w/o Tap Fees	with Tap Fees ⁽¹⁾		
Water	1.2	1.4		
Wastewater	1.2	1.3		
Storm	1.3	1.3 ⁽²⁾		

⁽¹⁾ To reduce variability, tap fee revenue is from the prior year i.e. 2018 tap fee revenue was collected in 2017

⁽²⁾ A tap fee for the stormwater utility has not been established, therefore the dual target is not used

Financial Planning Performance Metrics

Cash Reserves:

Target is the same for all 3 Utilities:

120 days cash or 33% of Total O&M

Working Capital Reserves Policy (section 2.4):

Policy is the same for all 3 Utilities:

25% of current operating expenses

Debt Issuance

Utility		Debt Service Payment (\$million)							
	2018	2019	2020	2021	2022	2023	2024	2025	
Water	\$0.9M	\$0.9M	\$0.9M	\$0.9M	\$0.9M	\$0.9M	\$0.9M	\$0	
Wastewater	\$1.3M	\$1.3M	\$1.3M	\$1.3M	\$1.3M	\$1.3M	\$1.3M	\$2.0M	
Stormwater	\$0.3M	\$0.3M	\$0.3M	\$0.3M	\$0.3M	\$0.3M	\$0.3M	\$0.4M	
Total	\$2.5M	\$2.5M	\$2.5M	\$2.5M	\$2.5M	\$2.5M	\$2.5M	\$2.4M	

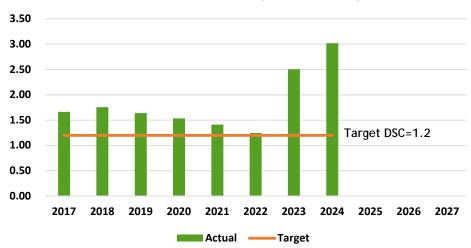
WATER

WATER Financial Planning Alternatives

2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2017 Plan									
3%	3%	3%	3%	2%	4%	4%	4%	4%	-
"Just-In-Time" Revenue Increases									
0%	0%	0%	0%	1%	35%	0%	0%	0%	0%
"Smoothing" Revenue Increases									
2%	3%	3%	3%	2%	2%	2%	0%	0%	0%

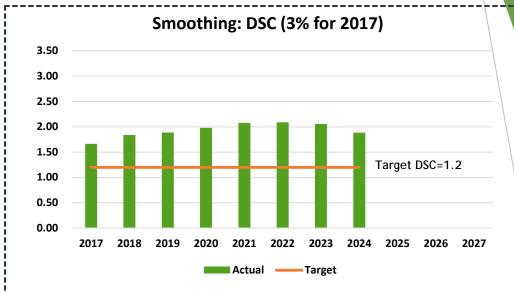
WATER: Financial Plan Alternatives



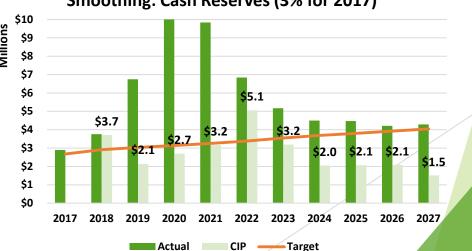


Just-In-Time: Cash Reserves (0% for 2017)





Smoothing: Cash Reserves (3% for 2017)



Recommended

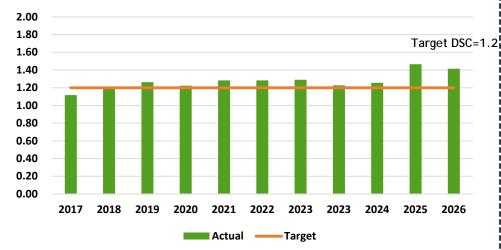
WASTEWATER

WASTEWATER Financial Planning Alternatives

2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2017 Plan									
7%	6%	6%	6%	6%	6%	6%	6%	2%	-
"Just-In	"Just-In-Time" Revenue Increases								
12.5%	0%	0%	6%	8.5%	0%	1%	37%	0%	0%
"Smoothing" Revenue Increases									
6%	6%	6%	6.5%	7%	7%	7%	7%	2%	0%

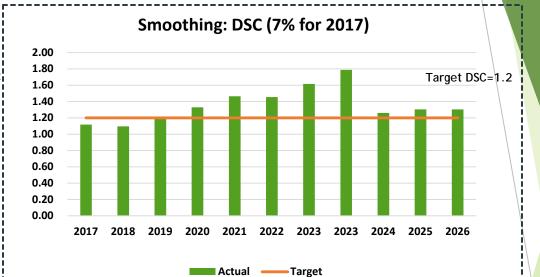
WASTEWATER: Financial Plan Alternatives





Just-In-Time: Cash Reserves (7% for 2017)





Smoothing: Cash Reserves (7% for 2017)



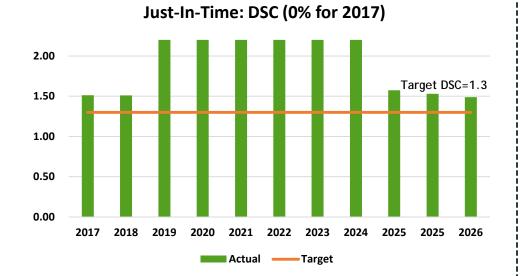
Recommended

STORMWATER

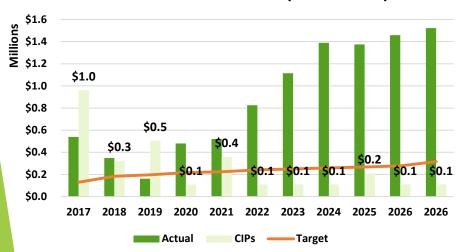
STORMWATER Financial Planning Alternatives

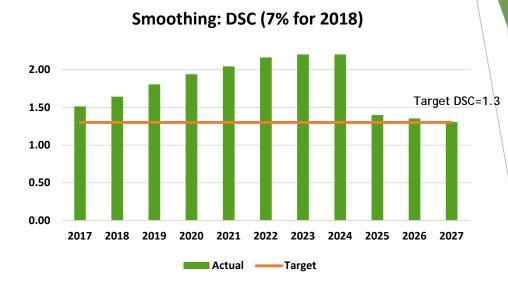
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2017 Plan									
3%	3%	3%	3%	3%	3%	4%	4%	4%	-
"Just-In	"Just-In-Time" Revenue Increases								
0%	42%	0%	0%	0%	0%	0%	0%	0%	0%
"Smoothing" Revenue Increases									
7%	7%	4%	4%	4%	4%	0%	0%	0%	0%

STORMWATER: Financial Plan Alternatives



Just-In-Time: Cash Reserves (0% for 2017)





Smoothing: Cash Reserves (7% for 2018)



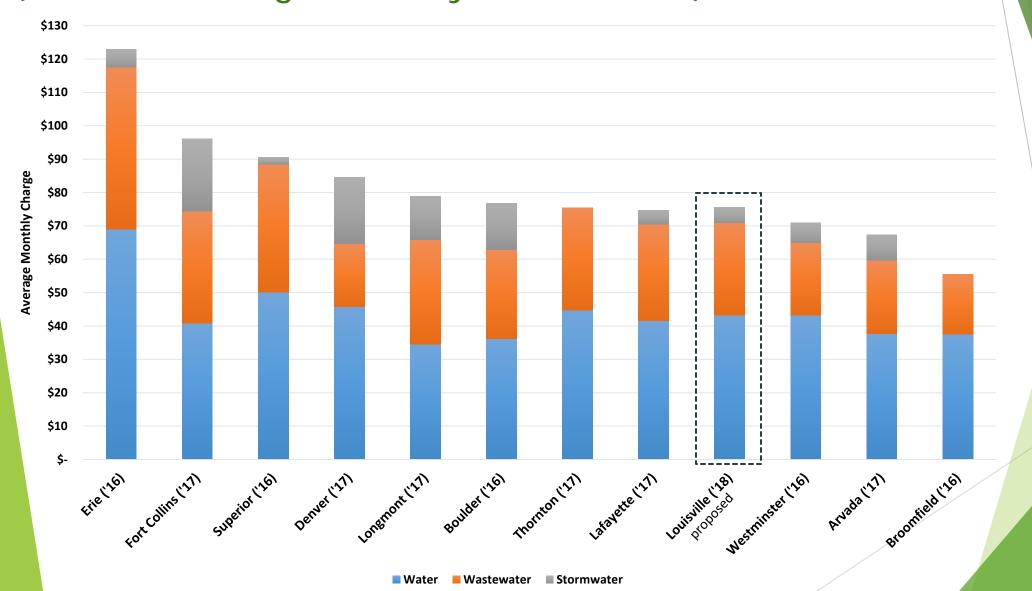
Recommended

Recommended Rate Increase:

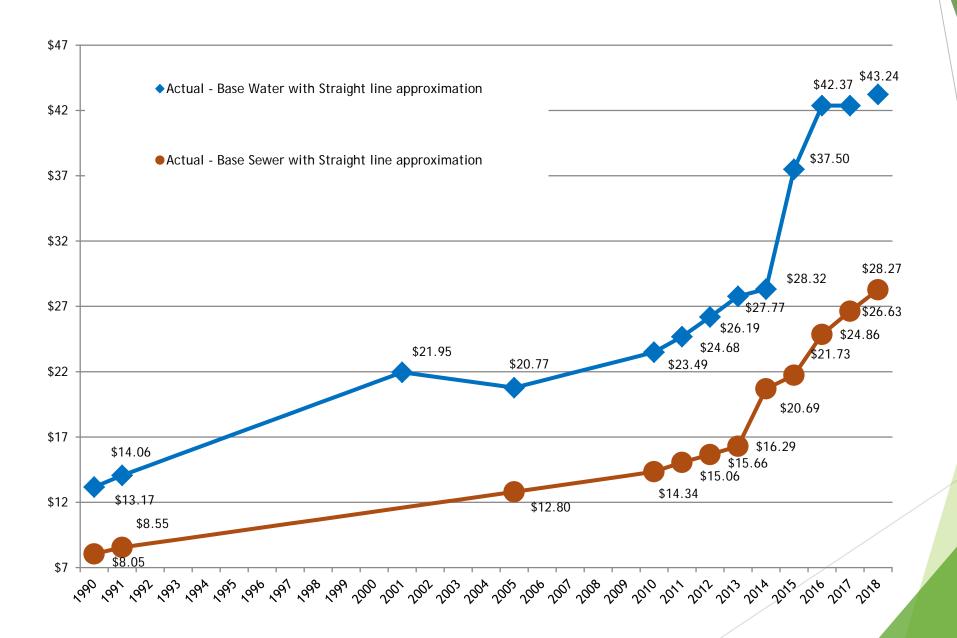
	2018	2019	2020	2021	2022	2023	
Alternative 2 - "Smoothing" Revenue Increases (All funds self-sufficient)							
Water	2% 3%	3% 3%	3% 3%	3% 3%	2% 2%	2%	
Wastewater	6% 7%	6% 6%	6% 6%	6.5% 6%	7% 6%	7%	
Stormwater	7% 4 %	7% 3%	4% 3%	4% 3%	4% 3%	4%	

Prior Study 2018 - 2022 Projected Revenue Increases in strikethrough text

Average Monthly Water, Wastewater & Storm Rates (Louisville Single Family Residential)



Historical Water and Sewer Rates





UTILITY COMMITTEE COMMUNICATION

SUBJECT: POWERLINE UNDERGROUNDING FUND

DATE: JULY 21, 2017

PRESENTED BY: EMILY KROPF, ASSISTANT TO THE CITY MANAGER

SUMMARY:

The City's franchise agreement with Xcel requires the company to budget and allocate 1% of the preceding year's electric gross revenues for Louisville to bury existing overhead facilities underground. To use the 1% fund, City staff must select projects with distribution or feeder utility lines that are located in the right-of-way and at least 750 feet in length. Additional equipment like transformers cannot be buried as that technology does not exist at this time. Staff is looking for comments on the following:

- Should staff direct Xcel to start the design process on any projects?
- Should the City consider investing any funds outside of the 1% fund for undergrounding during the budget process?
- If not should staff use the 1% fund for projects that do not require additional City funds or should the City continue to grow the 1% fund and use it for future capital projects?

Background

The City currently has \$1,765,330 in the 1% fund and can borrow ahead for three years for another \$990,444, resulting in a total of \$2,755,774. Staff recommends maintaining a minimum balance of \$500,000 to use in conjunction with future capital projects (i.e. traffic signals on State Highway 42), resulting in a total amount available of \$2,255,774.

In March 2017, the Utility Committee reviewed the list of potential projects and directed staff to explore which projects would improve service reliability and public safety. Xcel provided a letter recommending three projects that could improve service reliability:

Location	Utilities (Linear Feet)	Cost
West of SH 42 & west on Griffith	1,700 Xcel distribution	\$340,000-\$510,000 Xcel 1% fund
	1,700 CenturyLink	\$85,000-\$170,000 additional City
		funds
Spruce & north in alley between	3,900 Xcel distribution	\$780,000-\$1,170,000 Xcel 1% fund
Lincoln & Garfield	3,900 CenturyLink	\$195,000-\$390,000 additional City
		funds
Alley adjacent to Community Park &	2,000 Xcel distribution	\$400,000-\$600,000 Xcel 1% fund
north on Roosevelt to Pine	2,000 CenturyLink	\$100,000-\$200,000 additional City
		funds

The remaining projects have been prioritized based on the type of benefit that would result from undergrounding (public safety, aesthetics, etc.). Some projects also include

UTILITY COMMITTEE COMMUNICATION

SUBJECT: POWERLINE UNDERGROUNDING FUND

DATE: JULY 21, 2017 PAGE 2 OF 3

the additional cost to bury CenturyLink's utility lines (approx. \$50 to \$100 per linear foot) that would be forced to go underground at the City's cost.

FISCAL IMPACT

Dependent on projects selected for undergrounding, if any.

ATTACHMENT(S):

- 1. Xcel Letter
- 2. Overhead Map
- 3. Undergrounding Projects
- 4. March 31, 2017 Utility Committee Communication



July 5, 2017

Transmitted by email

2655 North 63rd St. Boulder, CO 80301

Emily Kropf Assistant to the City Manager City of Louisville

Re: Xcel Energy conversion of overhead facilities to underground

Dear Emily:

As requested, Xcel Energy is providing the following three recommendations for converting overhead power lines to underground as part of our Underground Conversion Fund commitment to the City of Louisville. The primary considerations for these recommendations relate to reliability and system resilience and do not necessarily address the city's goals for aesthetic improvements. Generally, undergrounding legacy overhead power lines will immediately increase the reliability of that circuit, both because it is brand new material, and because the lines will no longer be subject to the hazards associated with overhead construction, namely trees, animals and weather.

But, additionally, we expect to realize significant improvements to service due to the increased capacity of the new power lines. In a sense, these "larger" lines would permit more energy to be carried so that, during outages, our personnel would have greater flexibility in switching around power interruptions, thereby restoring power to customers more quickly.

Recommendations:

- 1. Bury the line on the west side of Hwy 42 and going west on Griffin St. to tie to the new underground lines serving the new development north of Miners Field
- 2. Bury line on Spruce St. going west and then the line going north in the alley between Lincoln and Garfield
- 3. Bury the alley adjacent to Community Park and the line going north on Roosevelt up to the underground near Pine St.

Finally, we have updated Louisville's Underground Conversion Fund as of the end of Q1, 2017. The amounts are as follows:

Funds accrued: \$1,765,330

Three-year borrow-ahead: \$990,444

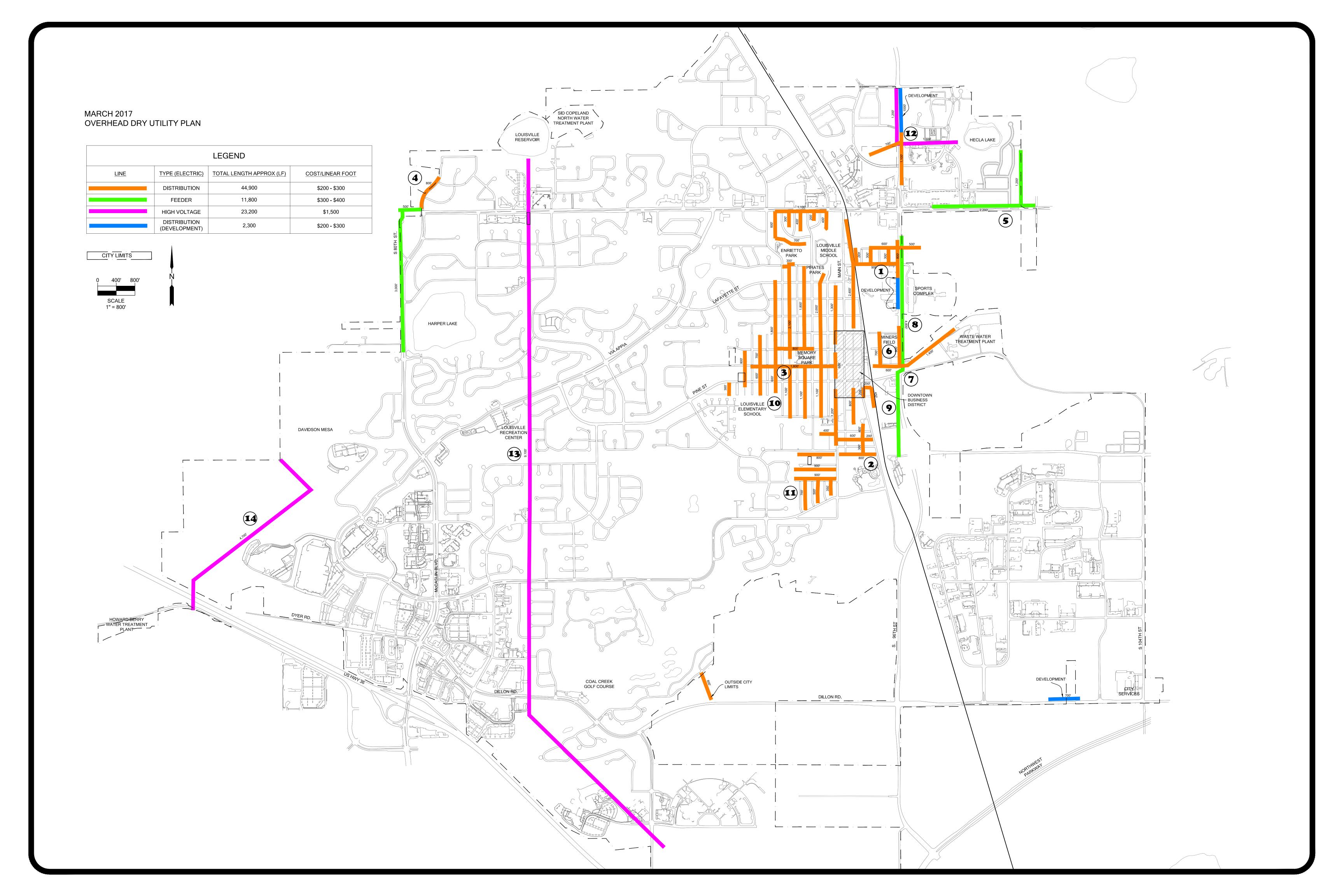
Total available: \$2,755,774

I hope this information helps the city determine its strategy for power line conversion. As always, we remain very eager to help Louisville make these decisions and look forward to working with you.

Sincerely,

Area Manager

craig.l.eicher@xcelenergy.com



Potential Undergrounding Projects 7/10/17

#	Location	Benefit	Utilities (Linear Feet)	Cost
1	West of SH 42 & west on Griffith	Service reliability	1,700 Xcel distribution 1,700 CenturyLink	\$340,000-\$510,000 Xcel 1% fund \$85,000-\$170,000 additional City funds
2	Alley adjacent to Community Park & north on Roosevelt to Pine	Service reliability	2,000 Xcel distribution 2,000 CenturyLink	\$400,000-\$600,000 Xcel 1% fund \$100,000-\$200,000 additional City funds
3	Spruce St & north in alley between Lincoln & Garfield	Service reliability	3,900 Xcel distribution 3,900 CenturyLink	\$780,000-\$1,170,000 Xcel 1% fund \$195,000-\$390,000 additional City funds
4	McCaslin Blvd, north of Washington, west side	Public safety (arterial road) Aesthetics (open space)	3,000 Xcel feeder 800 Xcel distribution 800 CenturyLink	\$900,000-\$1,200,000 Xcel 1% fund \$160,000-\$240,000 Xcel 1% fund \$40,000-\$80,000 additional City funds
5	S Boulder Rd	Public safety (arterial road) No additional City cost	3,400 Xcel feeder	\$1,020,000-\$1,360,000 Xcel 1% fund
6	SH 42, Pine to Miners Field, west side	Public safety (arterial road)	900 Xcel distribution 900 CenturyLink	\$180,000-\$270,000 Xcel 1% fund \$45,000-\$90,000 additional City funds
7	SH 42/Pine Intersection	Public safety (arterial road)	1,000 Xcel feeder 1,500 Xcel distribution 1,000 CenturyLink	\$300,000-\$400,000 Xcel 1% fund \$300,000-\$450,000 Xcel 1% fund \$50,000-\$100,000 additional City funds
8	SH 42, Cannon Cir to Pine, east side	Public safety (arterial road)	3,000 Xcel feeder 1,000 CenturyLink	\$900,000-\$1,200,000 Xcel 1% fund \$50,000-\$100,000 additional City funds
9	East St, Lock to Pine	Public safety (arterial road)	1,700 Xcel feeder 1,700 CenturyLink	\$510,000-\$680,000 Xcel 1% fund \$85,000-\$170,000 additional City funds
10	Downtown	Aesthetics (neighborhood/business district)	26,200 Xcel distribution 26,200 CenturyLink	\$5,240,000-\$7,860,000 Xcel 1% fund \$1,310,000-\$2,620,000 additional City funds

Potential Undergrounding Projects 7/10/17

11	Lois Dr/Aline St/Barbara St/Rose St	Aesthetics (neighborhood)	2,400 Xcel distribution 2,400 CenturyLink	\$480,000-\$720,000 Xcel 1% fund \$120,000-\$240,000 additional City funds
12	SH 42, Hecla Way to Baseline, both sides	Public safety (arterial road)	1,800 Xcel distribution 2,500 Xcel high voltage	\$360,000-\$540,000 Xcel 1% fund \$3,750,000 additional City funds
13	Power Line Trail	Aesthetics (City-wide)	9,000 Xcel high voltage	\$13,500,000 additional City funds
14	Davidson Mesa	Aesthetics (open space)	4,700 Xcel high voltage	\$7,050,000 additional City funds



UTILITY COMMITTEE COMMUNICATION

SUBJECT: POWERLINE UNDERGROUNDING FUND

DATE: MARCH 31, 2017

PRESENTED BY: EMILY KROPF, ASSISTANT TO THE CITY MANAGER

SUMMARY:

The City's franchise agreement with Xcel requires the company to budget and allocate 1% of the preceding year's electric gross revenues for Louisville to bury existing overhead facilities underground. To use the 1% fund, City staff must select projects that are located in the right-of-way and at least 750 feet in length. Staff is looking for comments on the following issues:

- Which projects, if any, should staff direct Xcel to start the design process for at this time?
- Should the City consider during the biennial budget process investing any funding outside of the 1% fund for undergrounding? The additional cost to bury CenturyLink's lines have not been included in the City's five-year Capital Improvement Plan.

Background

There are several factors to consider when prioritizing projects. First, it can be difficult to identify a specific cost for undergrounding as some projects are more expensive than others due to various challenges (i.e. type of infrastructure, geographic location, other utility lines). Second, a power line that has private services lines connected to it for residences or commercial properties may not result in a significantly improved appearance as the poles that connect the private services lines would remain unless the City picked up the additional cost to bury those lines. Third, undergrounding may not result in more consistent service. Xcel has found that burying utility lines does not necessarily improve service reliability as the majority of issues that result in outages involve other unexpected issues like animal interference or equipment failure.

Staff has previously used the Xcel 1% fund to bury overhead lines in the downtown business district when we could cost-effectively do so as part of construction activity immediately adjacent to the overhead lines and to avoid undergrounding work at a later date that would damage recently installed asphalt and concrete work (the "dig once" approach). The current balance of the fund is \$1,574,940. Xcel allows for a 3-year borrow ahead, which adds another \$800,000 to the fund, resulting in a total of about \$2,375,000. Staff recommends maintaining a minimum balance of \$500,000 to use in conjunction with future capital projects (i.e. traffic signals on State Highway 42). Therefore, the total amount available is about \$1,875,000.

SUBJECT: POWERLINE UNDERGROUNDING FUND

DATE: MARCH 31, 2017 PAGE 2 OF 3

The City currently has approximately 80,000 feet of overhead utility lines that are located in the right-of-way. There are three types of utility lines owned by Xcel: distribution (low power lines servicing residential or commercial properties – 45,000 feet), feeder (medium power lines with three to eight large conductors – 12,000 feet), and transmission (high power steel poles with main lines – 23,000 feet). There is an additional 2,000 feet of lines the City will ask private developers to bury at their cost.

Xcel provided a general estimate of \$150 per linear foot to bury distribution lines, \$250 per foot for feeder lines, and \$1,500 per foot for transmission lines. Based on recent work, City staff finds the cost to bury distribution lines is closer to \$280 per linear foot. A conservative price range to bury distribution lines is \$200 to \$300 per linear foot and \$300 to \$400 per foot for feeder lines. For example, the cost to bury 1,000 feet (roughly three blocks, the distance from South Street to Pine Street) would range from \$200,000 to \$300,000 for distribution lines and \$300,000 to \$400,000 for feeder lines.

This does not include the additional cost to bury other utility lines that would be forced to go underground, as well. The City's franchise agreement with Comcast states that the company is responsible for placing its lines underground if electric, telephone, and other above-ground utilities are buried at no expense to the City. However, the City does not have a franchise agreement with CenturyLink because telecommunications companies do not require additional authorization or franchise by any municipality to access the right-of-way unless they are providing cable service. Consequently, the City would be responsible for paying the cost to bury CenturyLink's utility lines.

The cost to place CenturyLink's lines underground at the same time as Xcel's in a joint trench is less expensive. Based on recent work, staff estimates the cost to bury CenturyLink's lines ranges from \$50 to \$100 per linear foot. However, the City cannot use the 1% fund to bury these lines as it can only be used for infrastructure owned by Xcel. Consequently, in addition to the undergrounding costs eligible for the Xcel funds, the additional cost to bury 1,000 feet of CenturyLink's lines would range from \$50,000 to \$100,000, which the City would have to pay.

Below is a table of potential projects that the City can pursue:

#	Location	Utilities (Linear Feet)	Cost
1	SH 42, Cannon Cir to	1,700 Xcel distribution	\$340,000-\$510,000 Xcel 1% fund
	Pine, west side	1,700 CenturyLink	\$85,000-\$170,000 City funds
2	Rex St/Roosevelt Ave (could improve reliability through circuit upgrade)	2,000 Xcel distribution 2,000 CenturyLink	\$400,000-\$600,000 Xcel 1% fund \$100,000-\$200,000 City funds
3	East St, Lock to Pine	1,700 Xcel feeder 1,700 CenturyLink	\$510,000-\$680,000 Xcel 1% fund \$85,000-\$170,000 City funds

UTILITY COMMITTEE COMMUNICATION

SUBJECT: POWERLINE UNDERGROUNDING FUND

DATE: MARCH 31, 2017 PAGE 3 OF 3

4	Lois Dr/Aline St/Barbara	2,400 Xcel distribution	\$480,000-\$720,000 Xcel 1% fund
	St/Rose St	2,400 CenturyLink	\$120,000-\$240,000 City funds
5	SH 42/Pine Intersection	1,000 Xcel feeder	\$300,000-\$400,000 Xcel 1% fund
		1,500 Xcel distribution 1,000 CenturyLink	\$300,000-\$450,000 Xcel 1% fund \$50,000-\$100,000 City funds
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6	SH 42, Cannon Cir to	3,000 Xcel feeder	\$900,000-\$1,200,000 Xcel 1% fund
	Pine, east side	1,000 CenturyLink	\$50,000-\$100,000 City funds
7	S Boulder Rd	3,400 Xcel feeder	\$1,020,000-\$1,360,000 Xcel 1% fund
	M.O. P. Distander	0.000 % - 1 (1	#000 000 #4 000 000 V I 40/ f I
8	McCaslin Blvd, north of Washington, west side	3,000 Xcel feeder 800 Xcel distribution	\$900,000-\$1,200,000 Xcel 1% fund \$160,000-\$240,000 Xcel 1% fund
	Washington, West side	800 CenturyLink	\$40,000-\$80,000 City funds
		,	, , , , ,
9	SH 42, Hecla Way to	1,800 Xcel distribution	\$360,000-\$540,000 Xcel 1% fund
	Baseline, both sides	2,500 Xcel high voltage	\$3,750,000 Xcel 1% fund
10	Downtown	33,000 Xcel distribution	\$6,600,000-\$9,900,000 Xcel 1% fund
		33,000 CenturyLink	\$1,650,000-\$3,300,000 City funds
11	Davidson Mesa	4 700 Yeal high voltage	\$7,050,000 Yeal 19/ fund
''	Daviusuri wesa	4,700 Xcel high voltage	\$7,050,000 Xcel 1% fund
12	Power Line Trail	9,000 Xcel high voltage	\$13,500,000 Xcel 1% fund

FISCAL IMPACT

Dependent on projects selected for undergrounding.

ATTACHMENT(S):

- 1. Xcel Franchise Agreement
- 2. Overhead Map
- 3. Comcast Franchise Agreement

Company Facilities to accommodate the City's use of such Company Facilities and for any electricity used. No such use of Company Facilities shall be required if it would constitute a safety hazard or would interfere with the Company's use of Company Facilities. Any such City use must comply with the National Electric Safety Code and all other applicable laws, rules and regulations.

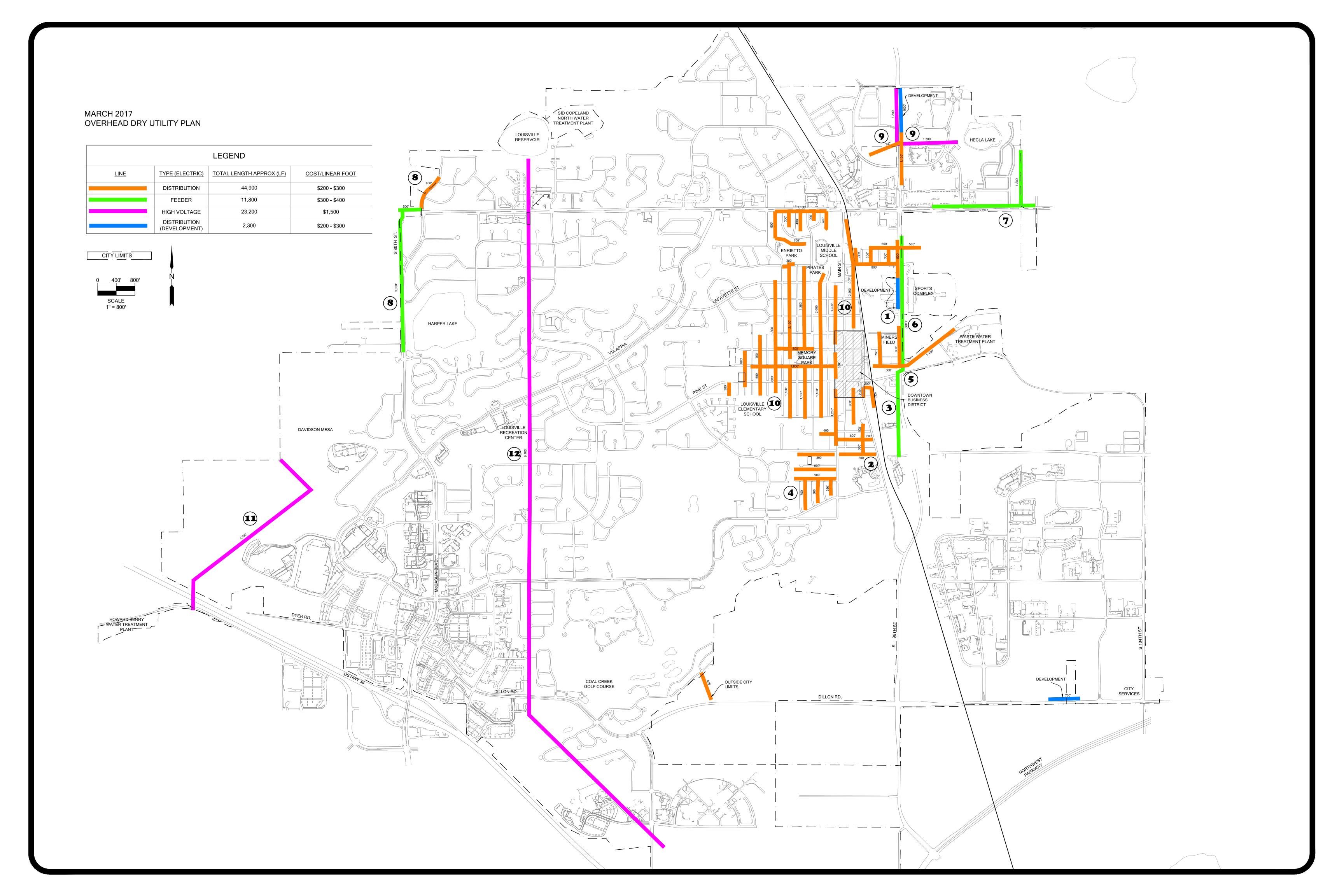
- §9.2 Third Party Use Of Company Facilities. If requested in writing by the City, the Company may allow other companies who hold franchises, or otherwise have obtained consent from the City to use the Streets, to utilize Company Facilities for the placement of their facilities upon approval by the Company and agreement upon reasonable terms and conditions including payment of fees established by the Company. No such use shall be permitted if it would constitute a safety hazard or would interfere with the Company's use of Company Facilities. The Company shall not be required to permit the use of Company Facilities for the provision of utility service by the City or by third parties.
- §9.3 <u>City Use Of Company Transmission Rights-Of-Way</u>. The Company shall offer to grant to the City use of transmission rights-of-way which it now, or in the future, owns in fee within the City for parks and open space; provided, however, that the Company shall not be required to make such an offer in any circumstance where such offer would constitute a safety hazard or would interfere with the Company's use of the transmission right-of-way. This Section is not intended and shall not be construed to revoke or affect any prior license, grant or right to use Company transmission rights-of-way.
- §9.4 <u>Emergencies</u>. Upon written request, the Company shall assist the City in developing an emergency management plan. In the case of any emergency or disaster, the Company shall, upon verbal request of the City, make available Company Facilities for emergency use during the emergency or the disaster period. Such use of Company Facilities shall be of a limited duration and will only be allowed if the use does not interfere with the Company's own use of Company Facilities.

ARTICLE 10 UNDERGROUNDING OF OVERHEAD FACILITIES

- §10.1 <u>Underground Electrical Lines In New Areas</u>. The Company shall, upon payment to the Company of the charges provided in its Tariffs or their equivalent, place all newly constructed electrical distribution lines in newly developed areas underground in accordance with applicable laws, regulations and orders.
- §10.2 Underground Conversion At Expense Of Company.
 - A. <u>Underground Fund</u>. The Company shall budget and allocate an annual amount, equivalent to one percent (1%) of the preceding year's Electric Gross Revenues (the "Fund"), for the purpose of undergrounding existing overhead distribution facilities in the City, as may be requested by the City, provided that the undergrounding shall extend for a minimum distance of one (1) block or 750 feet, whichever is less, or as may be mutually

agreed by the parties. Except as provided in §6.8.G, no relocation expenses which the Company would be required to expend pursuant to Article 6 of this franchise shall be charged to this allocation.

- B. <u>Unexpended Portion And Advances</u>. Any unexpended portion of the Fund shall be carried over to succeeding years and, in addition, upon request by the City designee, the Company agrees to expend amounts anticipated to be available under the preceding paragraph for up to three (3) years in advance. Any amounts so expended shall be credited against amounts to be expended in succeeding years. Any funds accumulated under any prior franchise shall be carried over to this Fund balance. The City shall have no vested interest in any monies in the Fund not expended as of the date of expiration or termination of this franchise.
- C. <u>Systemwide Undergrounding</u>. If, during the term of this franchise, the Company should receive authority from the PUC to undertake a systemwide program or programs of undergrounding its electric distribution facilities, the Company will budget and allocate to the program of undergrounding in the City such amount as may be determined and approved by the PUC, but in no case shall such amount be less than the one percent (1%) of annual Electric Gross Revenues provided above.
- D. <u>City Requirement To Underground</u>. In addition to the provisions of this Article, the City may require any above ground Company Facilities to be moved underground at the City's expense.
- §10.3 <u>Undergrounding Performance</u>. Upon receipt of a written request from the City, the Company shall, to the extent of monies available in the Fund and as otherwise provided herein, underground Company Facilities in accordance with the procedures set forth in this Section.
 - A. Performance. The Company shall complete each undergrounding project requested by the City within a reasonable time, not to exceed one hundred eighty (180) days from the later of the date upon which the City designee makes a written request and the date the City provides to the Company all Supporting Documentation. The Company shall be entitled to an extension of time to complete each undergrounding project where the Company's performance was delayed due to a cause that could not be reasonably anticipated by the Company or is beyond its reasonable control, after exercise of best efforts to perform, including but not limited to, fire, strike, war, riots, acts of governmental authority, acts of God, forces of nature, judicial action, unavailability or shortages of materials or equipment and failures or delays in delivery of materials. Upon request of the Company, the City may also grant the Company reasonable extensions of time for good cause shown and the City shall not unreasonably withhold any such extension.
 - B. <u>City Revision of Supporting Documentation.</u> Any revision by the City of Supporting Documentation provided to the Company that causes the Company to substantially redesign and/or change its plans regarding an undergrounding project shall be deemed good cause for a reasonable extension of time to complete the undergrounding



Prior to doing any work in the Right-of-Way, Grantee shall give appropriate notices to the City and to the notification association established in C.R.S. Section 9-1.5-105, as such may be amended from time to time.

Within forty-eight (48) hours after any City bureau or franchisee, licensee or permittee notifies Grantee of a proposed Right-of-Way excavation, Grantee shall, at Grantee's expense:

- (A) Mark on the surface all of its located underground facilities within the area of the proposed excavation;
- (B) Notify the excavator of any unlocated underground facilities in the area of the proposed excavation; or
- (C) Notify the excavator that Grantee does not have any underground facilities in the vicinity of the proposed excavation.

10.13 Notice to Private Property Owners

Grantee shall give notice to private property owners of work on or adjacent to private property in accordance with the City's Customer Service Standards, as the same may be amended from time to time by the City Council acting by Ordinance or resolution.

10.14 Underground Construction and Use of Poles

- (A) When required by general ordinances, resolutions, regulations or rules of the City or applicable State or federal law, Grantee's Cable System shall be placed underground at Grantee's expense unless funding is generally available for such relocation to all users of the Rights-of-Way. Placing facilities underground does not preclude the use of ground-mounted appurtenances.
- (B) Where electric, telephone, and other above-ground utilities are installed underground at the time of Cable System construction, or when all such wiring is subsequently placed underground, all Cable System lines shall also be placed underground with other wireline service at no expense to the City or Subscribers unless funding is generally available for such relocation to all users of the Rights-of-Way. Related Cable System equipment, such as pedestals, must be placed in accordance with the City's applicable code requirements and rules. In areas where either electric or telephone utility wiring is aerial, the Grantee may install aerial cable, except when a property owner or resident requests underground installation and agrees to bear the additional cost in excess of aerial installation.
 - (C) The Grantee shall utilize existing poles and conduit wherever possible.
- (D) In the event Grantee cannot obtain the necessary poles and related facilities pursuant to a pole attachment agreement, and only in such event, then it shall be lawful for

Grantee to make all needed excavations in the Rights-of-Way for the purpose of placing, erecting, laying, maintaining, repairing, and removing poles, supports for wires and conductors, and any other facility needed for the maintenance or extension of Grantee's Cable System. All poles of Grantee shall be located as designated by the proper City authorities.

- (E) This Franchise does not grant, give or convey to the Grantee the right or privilege to install its facilities in any manner on specific utility poles or equipment of the City or any other Person. Copies of agreements for the use of poles, conduits or other utility facilities must be provided upon request by the City.
- (F) The Grantee and the City recognize that situations may occur in the future where the City may desire to place its own cable or conduit for Fiber Optic cable in trenches or bores opened by the Grantee. The Grantee agrees to cooperate with the City in any construction by the Grantee that involves trenching or boring, provided that the City has first notified the Grantee in some manner that it is interested in sharing the trenches or bores in the area where the Grantee's construction is occurring. The Grantee shall allow the City to lay its cable, conduit and Fiber Optic cable in the Grantee's trenches and bores, provided the City shares in the cost of the trenching and boring on the same terms and conditions as the Grantee at that time shares the total cost of trenches and bores. The City shall be responsible for maintaining its respective cable, conduit and Fiber Optic cable buried in the Grantee's trenches and bores under this paragraph.

10.15 Undergrounding of Multiple Dwelling Unit Drops

In cases of single site Multiple Dwelling Units, Grantee shall minimize the number of individual aerial drop cables by installing multiple drop cables underground between the pole and Multiple Dwelling Unit where determined to be technologically feasible in agreement with the owners and/or owner's association of the Multiple Dwelling Units.

10.16 Burial Standards

(A) <u>Depths.</u> Unless otherwise required by law, Grantee, and its contractors, shall comply with the following burial depth standards. In no event shall Grantee be required to bury its cable deeper than electric or gas facilities, or existing telephone facilities in the same portion of the Right-of-Way, so long as those facilities have been buried in accordance with Applicable Law:

Underground cable drops from the curb shall be buried at a minimum depth of twelve (12) inches, unless a sprinkler system or other construction concerns preclude it, in which case, underground cable drops shall be buried at a depth of at least six (6) inches.

Feeder lines shall be buried at a minimum depth of eighteen (18) inches.

Trunk lines shall be buried at a minimum depth of thirty-six (36) inches.

Public Works and Utilities 2017/2018 Budget Estimates as of 7/13/2017 for amounts greater than \$5,000

	forks and Utilities 2017/2018 Bud	0				2nd 2017 Budget	1ct	t 2018 Budget
Account Number	er Description		2017	2018 Estimated Action		Impendment Amount 2018 Bas	e Budget Changes Amer	2016 bunger Motes Notes
Operations						unchanicht Ambant	Alliel	IONICHT AND SUNT
101431-540111	Professional Services - Traffic Signals	\$	47,250 \$	120,000 2018 Baseline Budget - Correction	\$	- \$	120,000 \$	 Recognizes correcting budgeting errors and moving CIP Traffic Signal Maintenance to Operations Budget.
501461-522020	Operating Supplies - Laboratory	\$	16,000 \$	30,000 2018 Baseline Budget - Change	\$	- \$	14,000 \$	 Recognizes cost trends for new lab equipment reagants and additional proactive algae testing.
	Parts/Repairs/Maintenance - Buildings/Facilities	s	56,780 \$	252,000 2017 Budgetment Amendment - Correction	\$	30,000 \$	225,000	To be discussed at July 21 Utility Committee for Followup from previous Budget Amendment Hearing.
				,	*	,	,	· · · · · · · · · · · · · · · · · · ·
	Parts/Repairs/Maintenance - Equipment	\$	255,000 \$	338,000 2017 Budgetment Amendment - Correction	\$	174,000 \$	248,000	To be discussed at July 21 Utility Committee for Followup from previous Budget Amendment Hearing.
501463-522240	Meter Pits & Meters	\$	65,000 \$	65,000 2018 Baseline Budget - Correction	\$	- \$	65,000 \$	 Recognizes funding to provide miscellaneous meter/meter pit installations/repairs. Missed in original 2017/2018 budget process.
502474-534010	Utility Services - Electricity	5	260,000 \$	340,000 2018 Baseline Budget - Change	\$	\$	75,000 \$	- Conservative WWTP Power Estimate. Not enough data to be accurate yet.
	,							
New	Training - R Factor	\$	- \$	50,000 2018 Baseline Budget - Change	\$	\$	50,000 \$	 Citywide Training recommended by Public Works and Human Resources. If Citywide not approved PWU will move forward at smaller budget amount.
Open Space and	I Banka Frank							
	Hwy 42 Underpass	5	300 000 S	750,000 Carryforward	33% S	- 6		99,000 Multi Year Project with Boulder County and CDOT
	I Parks Fund Subtotals		300,000 \$	750,000 Carryorward	55% 5		š	99,000 man real ringest war bounds county and coor
Carryforward					\$	-	\$	99,000
New					\$	-	\$	
Capital Projects		5		_ , ,				
301165-620098 301311-660202		\$	30,000 \$ 472,420 \$	- Carryforward 2,062,670 Carryforward	50% \$ 40% \$	- \$ - \$	- \$ - \$	15,000 Construction 2017 Q4 to 2018 Q1 188,968 Multi Year Project with BNSF Corridor Communities
301311-660239		Š	50,000 \$	- Carryforward	50% \$	- \$	- \$	185,300 and teal Filipe with love Control Continuing S 25,000 2017 Q4 to 2018 Q2 Study/Possible Grant
301312-650038		Š	28.876 S	25,000 2018 Baseline Budget - Correction	\$	s .	25.000 S	- In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval
301312-660079		\$	287,406 \$	- Carryforward	25% \$	- \$	- \$	71,852 2017 Q4 to 2018 Q2 Construction, Combines with 301312-660222
	SH 42 Corridor Improvements	\$	1,495,110 \$	- Carryforward	100% \$	- \$	- \$	1,495,110 2017 Q4 to 2018 Q2 Construction, Combines with 301312-660079
301553-620099			\$15,000 \$	- Carryforward	100% \$	- \$	- \$	15,000 Combined with Rec Center/Memory Square Construction
New	DRCOG Traffic Signal Grant/Superior	\$	20,000 \$	- 2017 Budget Amendment - New Project	\$	20,000 \$	- \$	- Local Share, New project with Superior to Upgrade Traffic Cameras with DRCOG Grant
New	US 36 RTD BRT Improvements 2018 Solar Charging Station Stretch Goal Installation	\$	25,000 \$	- 2017 Budget Amendment - New Project 10.000 2018 Baseline Budget - Change	\$	25,000 \$	- \$ 10.000 \$	Improve Pedestrian/Bike Conflict Safety at US 36 BRT Sustainability Target of 1 Station Install per Year
Capital Projects		,	- >	10,000 2018 Baseline Budget - Change	\$	45,000 \$	35,000 \$	- Sustainadurity Target of 1 Station install per Year 1,810,930
					-			
Carryforward					\$	- \$	- \$	1,810,930
Carryforward New					\$ \$	- \$ 45,000 \$	- \$ 35,000 \$	1,810,930 ·
New					\$ \$			
New Water Fund					s s	45,000 \$	35,000 \$	
New Water Fund 501498-600025	Fire Hydrant Painting	S	18,000 \$	12,500 2018 Baseline Budget - Correction	\$ \$	45,000 \$	35,000 \$ 12,500 \$	- In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval - In Original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval - In Original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval
New Water Fund 501498-600025 501498-660182	Fire Hydrant Painting Waterline Replacement	\$	4,305,000 \$	543,000 2018 Baseline Budget - Correction	\$ \$ \$ \$ \$	45,000 \$ - \$ - \$	35,000 \$ 12,500 \$ 543,000 \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In Original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval
New Water Fund 501498-600025 501498-660182 501498-660234	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement			543,000 2018 Baseline Budget - Correction 785,000 Carryforward, 2018 Baseline Budget - Change	\$ \$ \$ \$ 25% \$	45,000 \$	35,000 \$ 12,500 \$	- In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval - In Original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval - In Original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval
New Water Fund 501498-600025 501498-660182	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement WTP Instrumentation Upgrades	\$	4,305,000 \$ 589,380 \$	543,000 2018 Baseline Budget - Correction	\$ \$ \$ \$ 25% \$ \$	- \$ - \$ - \$	12,500 \$ 12,500 \$ 543,000 \$ 785,000 \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,354 CQ 2017 - 0.12 Dis Installation, Move 2019 The Settler Improvements yor to do both WTP's at same time.
New Water Fund 501498-600025 501498-660182 501498-660234 501499-640117 501499-650038	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement WTP Instrumentation Upgrades Lucity Water Facilities SCADA Upgrade	\$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$	543,000 2018 Baseline Budget - Correction 785,000 Carryforward, 2018 Baseline Budget - Change 2018 Baseline Budget - Change 25,000 2018 Baseline Budget - Crerction 2018 Baseline Budget - Change	\$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,345 Q4 2017 - Q1 2018 Installation, Move 2019 Tube Settler Improvements up to do both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval Remove 2018 Project Expenses
New Water Fund 501498-600025 501498-660182 501498-660234 501499-640117 501499-650038 501499-650080 501499-660207	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement WTP Instrumentation Upgrades Lucity Water Facilities SCADA Upgrade SCWTP Pump Station improvements	\$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$	543,000 2018 Baseline Budget - Correction 785,000 Carryforward, 2018 Baseline Budget - Change 2018 Baseline Budget - Change 25,000 2018 Baseline Budget - Correction 2018 Baseline Budget - Correction Carryforward	\$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,154 CQ 2017 - 0.12 Dis Installation, Move 2019 Tube Settler Improvements up to do both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval Remove 2018 Project Expenses 500,000 Q 2017 to 02 2018 Construction
New Water Fund 501498-600025 501498-660182 501498-660234 501499-650038 501499-650080 501499-650207 501499-660207	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement Tube Settler Replacement William Settler Settler Settler William Settler Settler William Settler Settler Water Facilities SCAM Upgrade SCWTP Pung Sation Improvements SCWTP Dying Bed Rehabilitation	\$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$ 174,250 \$	543,000 2018 Baseline Budget - Correction 785,000 Carryforward, 2018 Baseline Budget - Change 2018 Baseline Budget - Change 20,000 2018 Baseline Budget - Correction 2018 Baseline Budget - Change Carryforward Carcelled	\$ \$ \$	45,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$ - \$ - \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 1/37/35 C 2017 - 0.12018 Installation, Move 2319 The Settler Improvements put to do butto WTP's at same time. 1/37/35 C 2017 - 0.12018 Installation, Move 2319 The Settler Improvements put to do butto WTP's at same time. 1/37/35 C 2017 - 0.12018 Approved CIP Requests but lost in Translation at Budget Approval 1/37/35 C 2018
New Water Fund 501498-600025 501498-660182 501498-660231 501499-650185 501499-650080 501499-660209 501499-660209	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement WTP Instrumentation Upgrades Lucity Water Facilities SCADA Upgrade SCWTP Pump Station Improvements SCWTP Drying Bed Rehabilitation Louisville Lateral Ditch Piping	\$ \$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$ 174,250 \$ 205,000 \$	543,000 2018 Baseline Budget - Correction 785,000 Carryloward, 2018 Baseline Budget - Change - 2018 Baseline Budget - Change 2,000 2018 Baseline Budget - Correction - 2018 Baseline Budget - Change - Carryloward - Cancelled 625,000 2018 Baseline Budget - Change	\$ \$ \$	45,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	35,000 \$ 12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$ - \$ 420,000 \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,455 (2.07 - 0.12 018 Installation, Move 2010 Tube Settler Improvements up to do both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval Remove 2018 Project Expenses 500,000 (2.02 to 10 oz 2018 Construction HBWTP Drying Bed Effective to meet Permit. SCWTP Drying Bed not necessary. Move all project segments up for project delivery efficiency.
Water Fund 501498-600025 501498-660182 501498-660234 501499-660217 501499-650080 501499-660207 501499-660231 501499-660231	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement TUP Instrumentation Upgrades WITP Instrumentation Upgrades Water Facilities SCAIA Upgrade SCWTP Pump Station Improvements SCWTP Drung Bed Rehabilitation Louisville Lateral Ditch Piging WTP Floc/Sed Besian Covers	\$ \$ \$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$ 174,250 \$ 205,000 \$	1543,000 2018 Baseline Budget - Correction 75,000 Carryboward, 2018 Baseline Budget - Change 2018 Baseline Budget - Change 25,000 2018 Baseline Budget - Correction 2018 Baseline Budget - Change - Carryforward - Carceled 625,000 2018 Baseline Budget - Change 833,000 2018 Baseline Budget - Change	\$ \$ \$	45,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	35,000 \$ 12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$ - \$ - \$ 420,000 \$ (893,030) \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 10.7345 Q 2017 - 0.12018 Installation, Move 2018 The Settler Improvements up to do both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Expenses In original 2017/2018 Expenses On CIP CIP CONTROL OF C
New Water Fund 501498-600025 501498-660182 501498-660231 501499-650185 501499-650080 501499-660209 501499-660209	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement WTP Instrumentation Upgrades Lucity Water Facilities SCADA Upgrade SCWTP Pump Station Improvements SCWTP Drying Bed Rehabilitation Louisville Lateral Ditch Piping	\$ \$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$ 174,250 \$ 205,000 \$ - \$ - \$ - \$	543,000 2018 Baseline Budget - Correction 785,000 Carryloward, 2018 Baseline Budget - Change - 2018 Baseline Budget - Change 2,000 2018 Baseline Budget - Correction - 2018 Baseline Budget - Change - Carryloward - Cancelled 625,000 2018 Baseline Budget - Change	\$ \$ \$	45,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	35,000 \$ 12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$ - \$ 420,000 \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,455 (2.07 - 0.12 018 Installation, Move 2010 Tube Settler Improvements up to do both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval Remove 2018 Project Expenses 500,000 (2.02 to 10 oz 2018 Construction HBWTP Drying Bed Effective to meet Permit. SCWTP Drying Bed not necessary. Move all project segments up for project delivery efficiency.
Wew Water Fund 501498-600025 501498-660182 501498-660234 501499-650038 501499-650028 501499-660207 501499-660203 501499-660231 New New New New	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement WTP Instrumentation Upgrades Lucity Water Facilities SCADA Upgrade SCWTP Duny Station Improvements SCWTP Duny Station Improvements SCWTP Duny Station Improvements SCWTP Station Station Improvements SCWTP Station Station Improvements SCWTP Station Station Improvements SCWTP Source Station Improvements SCWTP Station Station Improvements SCWTP Station Station Improvements SCWTP Station Station Improvements SCWTP Station Station Improvements Watershed Protection Plan WTP (North and South) Repairs	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$ 174,250 \$ 205,000 \$ - \$ - \$	1543,000 2018 Baseline Budget - Correction 755,000 Carryloward, 2018 Baseline Budget - Change 2018 Baseline Budget - Change 2000 2018 Baseline Budget - Correction 2018 Baseline Budget - Change Carryloward Cancelled 625,000 2018 Baseline Budget - Change 893,030 2018 Baseline Budget - Change 42,000 2018 Baseline Budget - Change	\$ \$ \$	45,000 \$ -	35,000 \$ 12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$ - \$ 420,000 \$ (893,030) \$ 42,000 \$ 52,500 \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,455 Q 2017 - 0.12 2018 Installation, Move 2019 Tube Settler Improvements up to do both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval Remove 2018 Project Expenses 500,000 Q 2017 to 0.02 2018 Construction INBWTP Drying Bed Effective to meet Permit. SCWTP Drying Bed not necessary. Move all project expenses up for project delivery efficiency. Data Analysis Determined covers not needed. In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval To be discussed at July 12 Utility Committee for Followy from grow-loss Budget Amendment Hearing.
Water Fund 501498-600125 501498-660128 501498-660128 501499-650038 501499-650038 501499-660209 501499-660235 New New New Water Fund Sub	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement Tube Settler Replacement WTP instrumentation Upgrade Lucity Water Facilities SCADA Upgrade SCVITP Pump Station Improvements SCVITP Pump Station Improvements SCVITP Pump Station Improvements Color Pump Station Improvements Lucivalle Lateral Ditch Pigni University Pump Station Improvements System Water Loss Audit Watershed Protection Plan WTP (North and South) Repairs totols	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$ 174,250 \$ 205,000 \$ - \$ - \$ - \$	543,000 2018 Baseline Budget - Correction 785,000 Carryloward, 2018 Saseline Budget - Change 2018 Baseline Budget - Change 5,000 2018 Baseline Budget - Change Carryloward Car	\$ \$ \$	45,000 \$ -	35,000 \$ 12,500 \$ 542,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,450 (2017 - 0.2108) Installation, Move 2015 The Settler Improvements up to 06 both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval Remove 2018 Project Expenses 500,000 (2017 to 0.2 2018 Constructioners) Permit. SCWTD Prying Bed not necessary. In the Company of the
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Water Fund 501498-600025 501498-660132 501498-660235 501499-660135 501499-650088 501499-660235 New New Water Fund Sub Corryforward New	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement Tube Settler Replacement Tube Settler Replacement Will Water Facilities SCADA Upgrade SCMTP Pump Station Improvements SCMTP Drying Bed Rehabilitation Louisville Lateral Ditch Piging WTP FloCySed Bed Rehabilitation ScMTP Drying Bed Rehabilitation WTP FloCySed Bedsin Covers System Water Loss Audit Watershed Protection Plan WTP Bod Settler Settler Settler Settler Settler WTP Bod Settler Settler Settler WTP Bod Settler Settler WTP Bod Settler Settler WTP Bod Settler WTP Bo	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$ 174,250 \$ 205,000 \$ - \$ - \$ - \$	543,000 2018 Baseline Budget - Correction 785,000 Carryloward, 2018 Saseline Budget - Change 2018 Baseline Budget - Change 5,000 2018 Baseline Budget - Change Carryloward Car	\$ \$ \$	45,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	35,000 \$ 12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,450 (2017 - 0.2108) Installation, Move 2015 The Settler Improvements up to 06 both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval Remove 2018 Project Expenses 500,000 (2017 to 0.2 2018 Constructioners) Permit. SCWTD Prying Bed not necessary. In the Company of the
Water Fund 501498-600025 501498-660124 501499-660127 501499-660127 501499-660207 501499-660207 501499-660207 501499-660207 New New New Water Fund Sub Carryforward Carryforward	Fire Hydrant Painting Waterline Replacement Tube Settler Replacement WTP Instrumentation Upgrades Lucity Water Facilities SCADA Upgrade SCWTP Pump Station Improvements SCWTP Drying Bed Rehabilitation Louisville Lateral Dutch Piping WTP Pro/Sed Basin Covers System Water Loss Audit WTP (North and South) Repairs storoids	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,305,000 \$ 589,380 \$ 153,750 \$ 28,876 \$ 250,000 \$ 2,800,000 \$ 174,250 \$ 205,000 \$ - \$ - \$ - \$	543,000 2018 Baseline Budget - Correction 785,000 Carryloward, 2018 Saseline Budget - Change 2018 Baseline Budget - Change 5,000 2018 Baseline Budget - Change Carryloward Car	\$ \$ \$	45,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	35,000 \$ 12,500 \$ 543,000 \$ 785,000 \$ (52,530) \$ 25,000 \$ (26,270) \$	In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval 147,450 (2017 - 0.2108) Installation, Move 2015 The Settler Improvements up to 06 both WTP's at same time. Remove 2018 Project Expenses In original 2017/2018 Approved CIP Requests but lost in Translation at Budget Approval Remove 2018 Project Expenses 500,000 (2017 to 0.2 2018 Constructioners) Permit. SCWTD Prying Bed not necessary. In the Company of the
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